Government College Library
KOTAH.

Class
Book
Acces

DUE DATE SLIP

GOVT. COLLEGE, LIBRARY

KOTA (Raj.)

Students can retain library books only for two weeks at the most.

BORROWER'S No.	DUE DTATE	SIGNATURE

JOURNAL OF
PHILOSOPHICAL
STUDIES

VOL. VI. No. 21 JANUARY 1931

THE CONCEPTION OF REALITY AS A WHOLE

B. M. LAING, M.A., D.Litt.

THE subject of the present paper is the central conception of a philosophy that has been particularly dominant and influential and the following remarks are prompted because of difficulties experienced in the attempt to understand that philosophy. The aim of the paper is to point out what seems to be a serious defect in that type of philosophy, but it is even more its aim to emphasize the danger into which philosophy in all its forms may easily fall and against which it must exercise precautions.

The philosophy in question regards philosophy as the impulse towards wholeness. It defines philosophy as a study of reality as a whole in contrast to the sciences which deal with specific sections of reality. Now there are initial difficulties in this attitude. What is in question may be only a matter of definition, and even then presumably only definition of a purely provisional nature. But definitions may seriously mislead. When philosophy is said to be a study of reality as a whole, is it *known* that reality is a whole, or is it only being assumed that it is a whole? If it is known to be, or even assumed to be, a whole, it must be known or assumed to be a whole of a certain *kind*. It cannot be admitted that reality is *known* to be a certain kind of whole, nor even to be a whole at all. It is the business of philosophy to establish whether it is or it is not a whole, and what sort of whole it is. But if that has to be established it is hardly safe to define philosophy as a study of reality as a whole. It is not altogether safe even to assume it. Assumptions certainly are made even by the sciences, but assumptions may be made of such a

form and under such circumstances as to be a source of error. They may be made in a specific case to facilitate a solution to a definite problem; or something may be assumed which has to be established—that is, it may be the answer that is assumed. The only justifiable initial attitude towards philosophy is to define its nature by formulating its central or its most general *problem*; and in reference to reality the problem would be: Is reality a whole? And involved in that would be the question: Is it a specific kind of whole, and, if so, what is its specific nature? These questions would require a preliminary definition or consideration of different kinds of wholes. It would have to be decided whether there was only one thing that could be called *a whole* or whether there were different kinds of wholes. It is possible that such a preliminary consideration would lead to a view of philosophy as an attempt to discover whether there were any characters or relations that pervaded all sections of reality and that were therefore universal. Philosophy would thus have to be distinguished from the special sciences by the *generality* of its problem. Such a view of philosophy involves no prejudgment of the question whether reality is a whole. The answer to that question will depend on whether any all-pervasive characters are discovered.

The force of these requirements is brought home by a marked feature of those theories which interpret philosophy as a study of reality as a whole. That feature is their inability to define in clear and unambiguous terms what it is they are searching for, and likewise their inability to get hold of anything which will satisfy some demand which they cannot clearly specify. The present paper will endeavour to show this confusion that is present—a confusion that is only intensified by the vagueness and ambiguities of phraseology.

The immediate question which is to be discussed is: How is wholeness to be understood? Is there any one particular way in which it is to be understood? Statements such as "unity is the root of all things" or "everywhere the one comes before the many" are unsatisfactory, for they have no clear meaning and require elucidation. The meaning of unity is just as obscure as that of wholeness. It is a matter not merely of metaphysical interest, but of logical, moral, social, and political interest, for the ideas of unity and wholeness are employed in all these spheres. It is all the more important because the wholeness of reality is generally discussed by reference to, and in contrast to, various kinds of wholes which are capable of scientific investigation.

In the type of philosophy under discussion, as well as in other philosophies, emphasis is laid on a distinction between a social whole, a whole such as mind, an organic whole, a mechanical whole,

and an aggregate [1] These distinctions are largely due to the influence of the comparatively new biological and psychological sciences, especially biology, with its conception of organism and organization. A reaction set in against the older conceptions, which were formulated by physical science, and which were applied to the interpretation of society and of the nature of reality Such interpretations based on these older conceptions are now usually labelled "mechanical" The conceptions of the newer sciences are held to be more suitable for the understanding of reality Under the influence of assumptions, partly psychological and partly axiological (for instance, such as that embodied in the statement that we must interpret reality in terms of the highest that we know), mind was supposed to constitute the model of a whole in the light of which reality should be understood [2] With the development of the social sciences, and with increasing emphasis upon the social character of mind and upon the mental character of society, a still further analogy for the interpretation of reality is provided, leading to the idea of reality as a community of selves [3]

Bosanquet asserts that "we experience the Absolute better than we experience anything else . . . We all of us experience the Absolute, because the Absolute is in everything." "We experience it more fully than we experience anything else."[4] The meaning of these statements, though to some extent familiar through the influence of religious teaching, are philosophically decidedly obscure. Experience is one of those terms which admit of endless dispute, and it is used here just as vaguely as it is used by Hume—that pet aversion of the partisans of the whole. But whatever it may mean, it evidently does not mean that the Absolute is known, for otherwise it is not clear why analogies should be used by Bosanquet and others to elucidate the nature of the wholeness of reality. The employment of analogies at least suggests that reality as a whole is not known, and that information about its nature has to be elaborated on the basis of what is at most supposed to be an approximation If the Absolute were experienced in the sense of being consciously apprehended or intuited, an investigation of its nature could be carried on directly, and the results of such investigation would enable the kind of whole to be determined. There would be no use of analogy to accomplish this purpose That the information attainable regarding the nature of reality as a whole is only analogical appears in the vague and indefinite characterization which is finally

[1] Bosanquet, *Logic*, vol. 1 p 4. A E. Taylor, *Elements of Metaphysics*, p 100.

[2] See Bosanquet, *Philosophical Theory of the State*, especially ch vii

[3] Taylor, *op cit.*, Bk IV, ch iii, p 4

[4] Bosanquet, *Individuality and Value*, p. 27.

given of the Absolute. Readers are continually led on ever nearer to the Absolute, but are in the end left just short of grasping its nature in spite of the promises held out.[1] From the point of view of knowledge, and hence presumably of philosophy, if the latter is a reasoned view of the universe, the philosophy of the whole is a failure and gives way to what is at best a faith. Doubt is justifiably cast upon the conception of philosophy as a study of reality as a whole.

If the philosophy of the whole fails to achieve what it gives promise of being able to do, it at any rate performs the very great service of directing attention to the need of critical analysis and careful definition of terms. One main cause of its failure—if not the only cause—is just this neglect of careful examination of its fundamental categories. There is a good deal in the statement of that philosophy which suggests that whole and unity are frequently confused; but above all the source of confusion is to be found in a lack of clearness as to what unity is. In the consideration of the nature of reality as a whole the initial task is to elucidate the meaning or meanings of unity. It is very important to grasp the fact that nothing much has been said when something—whether a thing, a machine, an organism, a society, or a mind—is declared to be a unity. Statements such as that "reality is one throughout," or that "reality is a unity," or that it has a "pervading unity,"[2] or phrases such as "vital or living unity," "logical unity," or "systematic unity," merely manifest the dangerous tendency of philosophy to indulge in meaningless generalities.

It is possible to detect in the frequent use of the term unity a highly questionable, in fact it can be said a completely erroneous, assumption. It is that the wholeness of any kind of whole lies in the presence of only one quality or one kind of relation which serves to define the whole in question. This assumption appears in the doctrine that ultimate reality must be "a systematic experience of which the components are likewise experiences."[3] The constituents of the whole are held to be of the same kind as the whole itself. A similar assumption appears in the conception of logical unity or logical system. Mind is interpreted as a logical system, and reality is interpreted in terms of mind as logical system. What is more likely to be true is that different types of wholes are to be distinguished from each other by the presence in each of some type or types of relations which are not to be found in the others, and which therefore serve to define the type. But it must not be supposed that this

[1] This is the effect which Bradley's *Appearance and Reality* and A. E. Taylor's *Elements of Metaphysics* (ch. ii) in particular produce on me.

[2] Bosanquet, *Logic*, vol. ii. pp. 207–8, 210. Cf. *Individuality and Value*, p. 19.

[3] Taylor, *op. cit.*, p. 97.

relation, which is peculiar to a certain whole and serves to define it, is the sole relation that constitutes its unity.

It is erroneous to suppose that *the constituents of a whole must* be alike in character to the whole itself. There is no whole with which man is acquainted and which is capable of investigation that gives support to any such supposition. There is no requirement that a machine be made up of machines, far less of similar machines; that an organism be made up of organisms, far less of similar organisms; that a mind be made up of minds; or that a heap of stones should be itself a stone. It is erroneous to assume that a whole must needs have any such simplicity of character. Bound up with this is the equally erroneous belief that there is any simple straightforward thing answering to the term unity, whether logical unity, vital unity, organic unity, conscious unity, mental unity, or even unity of purpose. That in which any such unity consists is exceedingly complex; and the term unity, when used in reference to reality as a whole, signifies something still more complex, probably so complex that it is questionable whether the nature of the unity can be grasped at all. Unity is attainable through the presence of different kinds of relations existing between the parts or constituents. *Unity is not itself a relation in addition to and distinct* from other relations. Logical unity is not a unique kind of relation, but an expression for certain properties of relations. The same applies to vital unity. "Living unity" as a fact in nature is a product of a vast and complicated set of relationships between various kinds of factors.

This criticism, it may be well to remark before passing on, assumes that the question about the meaning of unity resolves itself into a question concerning, first, the constituents of a whole, and, secondly, the relations between these. Much in the philosophy under consideration gives the impression that unity is conceived as consisting in an all-pervasive "stuff," somewhat analogous to oxygen, which is all-pervasive in the atmosphere, or to electricity, which is coming to be thought of as all-pervasive and as the primary matter of the universe. The oneness of reality would then have to be conceived as a oneness of material. The idea of oneness as being a matter of relation is distinct from this, though here again the oneness of the universe may be conceived as consisting in a oneness of relation. It is the fact of these two possible meanings of oneness that is one reason for the obscurity and vagueness in the use of the term unity. But there is still a third possible interpretation of unity, *namely, as a complex of different relations. This is the unity* which Bosanquet's doctrine of the concrete universal and his discussion of uniformity really intend to assert; but on the other hand, his insistence on mind as the clue to the nature of reality, and

his assertion that the Absolute is present in every part, actually imply that the oneness of reality is oneness of character, and hence involves adherence to the idea of uniformity which he wishes to exclude.

The unity of a whole, as appears in the case of all wholes with which man is acquainted, lies in relations. The more complex the whole, the more diverse and complex are the relations. In illustration of this, several types of wholes that are generally considered in theories of reality as a whole may be examined.[1] The first and simplest is a collection or aggregate. A collection is frequently distinguished from a machine, and both from an organism, and all from a social whole. Such wholes seem obviously different, and it would be folly to deny what seems so obvious. But the main question is: Wherein does the distinction lie, or what are the factors which make them distinct? What primarily defines a collection is the type of relation existing between the units. This of course applies to any whole. The distinctive relation in the case of a collection is expressed by "and" or "plus." Hence such a whole is spoken of as the sum of its parts—a description which is frequently but erroneously applied to a machine. Whether anything more is required to express the nature of a whole, such as a collection, is a controversial matter. Must there be a spatial relation—one of contiguity, or any spatial limit at all? A precious stone in England, a second in America, a third in Africa, and so on, would not constitute a collection; but the same spread on a table in a room or even several rooms in a museum would do so. The difficulty is that the items of a collection may be sent to several distant parts of the country or of the world, and yet the collection is still held to exist. This might seem to give support to the view that the wholeness of a collection is due to human purpose and purposive activity. On the other hand, a collection or aggregate may be effected by purely natural forces—such as a collection of pebbles on a beach, of various articles at the mouth of a river, or of plants in the corner of a garden. Hence the definition of a collection need not depend on how the collection was made, nor does it depend on how any purposive being views the units. The reason why the items of a collection sent to various distant places continue to be regarded as a collection is that their dispersal is known not to be permanent, as would be the case if they were offered for sale, but to be a purely temporary affair, a momentary interruption in their existence as a collection.

The basis on which a whole, such as a collection, is to be defined is thus primarily the kind of relation between the constituent

[1] Taylor, *op. cit.*, pp 95–98. Bosanquet, *Philosophical Theory of the State*, p. 175. See also Giddings, *Principles of Sociology*, p 420, for consideration of various wholes.

factors When therefore it is said[1] that an aggregate "has no unitary character of its own which reveals itself in and through the behaviour of its elements," the statement may be a truism, or doubtful or ambiguous It may be a truism in that it amounts merely to saying that an aggregate is a kind of whole that has not the character of another kind of whole. It may be doubtful in that the character of an aggregate is revealed by the behaviour of its units, for its *character as an aggregate is discovered by the behaviour of its* units It may be ambiguous, for it is not clear what is demanded by the idea of *unitary character*

A machine is an instance of another type of whole. It is said to have "a determinate single character as a whole which manifests itself in the structure of the various parts." [2] Statements such as these are frequent with the partisans of the whole, and they seek to emphasize a feature that assumes increasing importance as an approach is made to other wholes like an organism, a society, and reality. The parts composing a whole like a machine can exist before the whole and may exist apart from the whole. Yet it is a nearer approach to a true "systematic unity" than is an aggregate. Now, it is of course the case that a machine is not merely the sum of its parts; there may be the parts, but to get the machine the parts must be "assembled " "Assembling" means bringing the parts into definitely specifiable relations to each other, and that process is the construction of the machine. The set of relations which characterize a machine and which are expressed in the physical principles embodied in its construction is not coincident with the relations which characterize an aggregate, nor does the former necessarily displace the latter. A machine has still the character of being an aggregate, but it has also some additional character. Thus two wholes are not necessarily exclusive. The more complex whole may be at the same time the less complex. This would ultimately imply that reality as a whole may be a collection, a machine, and many other things besides. It is necessary to guard against discussing the nature of reality on the assumption that if reality has one feature it cannot have any other, or that its defining relation means the exclusion of every other type of relation. When a table is asserted to be brown, it is not meant that it is *only* brown and has no other additional qualities. The table is all its qualities; whether it is merely the aggregate of these qualities or whether there is some additional type of relation characteristic of it, as is meant when it is said that it is a unity of these qualities, is a specific question to be considered. The question is not answered by simply asserting that it is a unity of these qualities. The problem of reality as a whole can be viewed as being analogous.

[1] Taylor, *op. cit.*, p. 96. [2] *Ibid., op. cit.*, p 96.

An organism is another instance of a whole, and much controversy has arisen as to whether an organism is an instance of a type of whole distinct from that of which a machine is an instance or from any other type. A machine is sometimes regarded as being an instance of a "mechanical whole," and an organism an instance of an "organic whole." The primary question is one concerning the actual principles constitutive of the nature of these two types, and until this question is definitely settled it is futile to argue about whether an existing whole is to be labelled one kind or the other. When it is declared, as it is by some, that an organism is a machine, it is not necessarily being asserted that an organism is only an engine, even though a very complex and delicate machine. What may be meant is that organisms, so far as they have been investigated, have yielded to principles and laws that actually constitute, or are derived from those constituting, the body of the physical sciences, and that still further investigation will probably show that an organism is still further amenable to principles that are the same as, or that are derivable from, those of the physical sciences, or that will come to be principles of the physical sciences. Whether this means much or not is irrelevant at the moment. The "mechanical view" has been modified on account of the development of the physical sciences themselves. So far as the controversy about mechanism was conducted on the assumption that the mechanical view meant the reduction of organisms to a specific and limited set of principles called mechanical, science itself has put the controversy out of date. The principles of engines may differ so much that there are different types of engines. The mechanical view, if it is to be at all tenable, must be resolved into a highly abstract and general contention that organisms are capable of analytic investigation, and that such analysis will reveal the presence of laws or principles. What the character of these laws will be, or what the factors entering into their formulation will be, remains undetermined. The error of the older mechanical views lay in asserting or supposing that these factors were the factors entering into mechanical laws. At the most it could be said of mechanism that it was claiming to use known phenomena and known explanations as an analogy in order to investigate the unknown and mysterious organic phenomena.

Frequently an attempt is made to distinguish between an organism and a machine on the ground of a difference in their origin and mode of development. An organism, it is said, is not made but grows. The development of an organism is at the same time the generation of its members. How much importance is to be attached to this point? As a matter of fact the distinction is difficult to draw, and if adhered to might necessitate the rearrangement of the grading of the various types of wholes. It is true that organisms reproduce

their kind, while no machine is so far capable of doing so, though machines may produce simpler and different machines. On the other hand, an organism develops in the sense that its organs simultaneously or successively appear. But this general characterization will apply to a machine That the parts of a machine exist before the whole, while that is not true of an organism, is a contention valid only if the term "parts" is arbitrarily interpreted In the case of a machine, men are pictured fashioning the parts at each stage and fitting them to their position in the machine as it comes through the successive departments There are clear stages, and there are agents. In the case of organisms there is not the same clear knowledge, although biology speaks of stages, and there may be agents of growth, though they are not fully known. If the distinction is adhered to, then whether a social whole is to be regarded as a mechanical whole or not will largely depend on theories regarding the mode of social growth Some theories suggest that the mode is such that a social whole can hardly be differentiated from what is called a mechanical whole.

So far as investigation goes, organisms differ very widely in character—so much so that the phrase "organic unity" has no clear meaning The unity of the higher organisms is not a simple affair, but a matter of a very complex set of relationships which are expressed in the mechanical, dynamical, and chemical principles at least, in terms of which vital processes are described and explained. There is the alimentary system with the physical processes of chewing and swallowing, and the chemical processes involved in mastication and digestion. There is the respiratory system involving the physical properties and action of the lungs, and the chemical processes connected with the substances inhaled and exhaled. There is the circulatory system with the processes connected with valves, pressure of fluid, contraction and distension, and so on. There is muscular contraction, action in accordance with the principles of levers, and so forth. These are merely some of the things to be noticed. All these are themselves again linked together. The set of relationships is thus exceedingly complex. The phrase "organic unity" accordingly appears as a term signifying this very complicated fact of diverse relationships. It does not signify any specific relation, nor does it signify the source of organic activity. An organic whole is hence not to be opposed to a machine or to a collection. It is a machine, or for that matter a number of machines; it is also a collection; but it may be admitted that in addition it has features which no machine so far constructed possesses, or at any rate which have not been reduced to any principles of the physical sciences.

A social whole is generally regarded as a higher type of whole.

At one time a social whole was interpreted in terms of the organic analogy. But contemporary thought tends to insist that a social whole is more than an organism.[1] The preceding argument is in harmony with this contention, but interprets it as meaning that a social whole does not thereby necessarily cease being a collection and also a machine. This additional character is due to the presence of factors and relationships which are not found in the constitution of organic wholes, machines, and collections. What is distinctive of a social whole is not merely "organization," [2] for so far as *meaning*, if not usage, is concerned, that term can be applied intelligibly to organisms and to machines, but the kind of organization involved; and the kind raises a question about the nature of the units and of the relationships between them, but primarily of the latter.

The case of a social whole, as was seen also in the case of organisms, provides another clear instance of the tendency to think that any whole must have and can have only one kind of relation determining its constitution, and that this is what its unity means. In the case of a social whole this relation is frequently spoken of as a "conscious relation" or a "conscious unity." Such a term may mean either a relation which is consciousness itself or else a relation of which there is consciousness. In the former case consciousness would be *the* relation which is characteristic of a social whole. In the latter case consciousness would be merely *a* conditioning factor, without which there would be no social whole. It is this latter meaning that is applicable to a social whole. There is not one sole relation of which consciousness is necessary. There is a host of relations which lie at the basis of a social whole and serve to constitute its unity. A distinction requires to be drawn between the relations and the consciousness of them. There may be a relation between a man and a motor-car, although the man may not be conscious of it, while consciousness of it may mean the difference between life and death.

A social whole is in a high degree conditioned by consciousness—so much so that it may be said that where the members are not conscious they do not constitute a *social* whole. But though it has this importance, it would be a fallacy to conclude that the other things, namely, the relationships, and that in which the relationships are found, are not also requisite. On the other hand, in the light of biological and certain psychological studies, it is possible to hold that there may be consciousness in some form although no social whole exists. What is distinctive of a social whole is the determination of conduct by way of consciousness of certain relations; and such consciousness appears as moral and social maxims, laws, rights, and obligations. These maxims, laws, and so on can be made an object of study; but an historical, as well as an analytic, investi-

[1] *E.g.* Giddings, *op. cit.*, p 420. [2] As Giddings, *ibid.*, contends.

gation into their foundations will show that consciousness in the form of knowledge, or at least of belief concerning some non-social facts, plays an important part in their formulation. A great mass of social usages, rules, and institutions are due to a subtle transformation of non-social facts into social fact by the human mind—rather by *a* or by some human minds in the first instance.[1]

A considerable amount of recent investigation [2] shows that the doctrine of the social whole, supported by, and taken as a clue to the nature of metaphysical reality by, the partisans of the whole has not a clear field It suggests that their views of a social whole rest, not on careful and detailed investigation of social wholes, but that they embody their own metaphysics. Any help to be derived from the use of an analogy is thus frustrated The sense in which a social whole develops requires very careful elucidation; and even if development is admitted to occur, the facts may show that a social whole grows, not by an inner propulsion leading to the unfolding of some inner social reality, but by the grafting of ideas and of institutions based on ideas that frequently come from outside sources. Social growth takes place through the gradual modification of existing usages and structures under the influence of new ideas or beliefs, or through the adoption of such and their incorporation in the life of the group. In fact the rôle played by consciousness is scarcely to be distinguished from the part it plays in relation to the making and developing of machines.

Bosanquet asserts that in the case of a social whole the whole is present "in every part, not merely for the inference of the observer, but, in some degree, for the part itself, through the action of consciousness."[3] It cannot be literally meant that the whole is present in the part, nor is the meaning of the statement clarified by the phrase "in some degree." Statements to the effect that the "whole is present, though not equally, in the part, and the part is present in the whole," [4] do suggest that the conception of the whole requires some elucidation. How is the whole to be understood if it is such that it is present in every part, yet is present in different degrees in different parts, which are higher or lower according to the degree? What seems to be the case is that confusion has occurred between a whole and consciousness of that whole. Applied to social life, the statement that the "whole is present in every part" means that

[1] For this reason we should not accept Graham Wallas's view (*The Great Society*, p. 374): "New social arrangements to meet the needs of a new environment cannot be invented for the mass of mankind by a few professed thinkers, but must be the result of innumerable experiments in which as many individuals as possible have freely taken part."

[2] Especially the work of Professor Elliott Smith and W. J. Perry.

[3] *Philosophical Theory of the State*, p 175 *Cf* Taylor, *op cit*, p. 100

[4] Taylor, *op cit*, p 101.

others used. Mammals is a subordinate group of animals, and an individual citizen is subordinate to a governing authority. One group may be said to be contained in the other, but the citizen is not contained in the governing authority. The last resort is to describe the relations between whole and part as being of an "intimate character," [1] as being "indissoluble," [2] or as being "direct social relations." [3]

Evidently the consideration of various wholes does not provide fruitful analogies for the interpretation of reality as a whole. Even the analogy of a social whole is inadequate. The relation between the parts and the whole is unique, and no adequate conception of it can be framed.[4] Also "we must be prepared to entertain the possibility . . . that the individuals composing the Absolute fall into a number of groups, each consisting of members which have direct social relations of some kind with each other, but not with members of other groups." [5] The reason for this is that these groups may be of types so alien to each other that no direct communication, not even of an elementary kind, is possible. Two remarks on this seem justified. The first is that, if so, some members of the Absolute are different in kind from each other. Yet the components of the Absolute have been asserted to be experiences and the Absolute to be one Experience. Reality has been asserted to be exclusively composed of psychical facts.[6] All existence has been declared to be ultimately mental.[7] The components should not therefore be distinct. If they are, the assertions turn out to be false. The second remark is that if there are groups in the Absolute so alien to each other as to have no direct communication, that is presumably relations, even of an elementary kind, the Absolute is not after all a unity such has been held, but a collection made up of separate and distinct groups. There may be a greater *unity* in the parts than in the whole itself.

The result of the theory seems thus to be peculiarly unsatisfactory. The character of the whole seems incapable of description. Yet that ought not to be the case if the whole is present in every part. If such a statement means anything at all, it should mean, as is seen from Bosanquet's reference to an arc of a circle or an ellipse, which, the arc being given, can be constructed, that the analysis of any part of reality will reveal the *unity* which pervades all reality. It should mean that the relation found to exist in the part is the relation that runs through the whole. But the analogies used all refuse to give support to this interpretation. The unity of the parts is not the unity of the whole. The theory suffers from not knowing

[1] Taylor, p. 100. [2] *Ibid.*, p. 23. [3] *Ibid.*, p. 349.
[4] *Ibid.*, *op. cit.*, pp 100, 350–352. [5] *Ibid.*, p. 349. [6] *Ibid*, p. 347.
[7] *Ibid.*, p 100. *Cf.* p. 103.

what exactly it wants because it has not first examined the conception of *unity* It has really been in search of some all-pervasive character in virtue of which it could be shown that reality is a whole, and a whole of a definite kind. But it has failed to find any such all-pervasive character It has failed to show that reality has even *any* general character.

THE PLACE OF GOD IN BERKELEY'S PHILOSOPHY

J. D. MABBOTT, B.Litt., M.A.

BERKELEY is commonly regarded as an idealist whose system is saved from subjectivism only by the advent of a God more violently *ex machina* than the God of any other philosopher. I hope to show that this accusation rests on a misunderstanding of his central theory, a misunderstanding which gives God a place both inconsistent with his main premisses and useless in his system. I hope also to display by quotation the real Berkeley, whose theory of God's place and nature is directly supported by argument and consistent with his premisses, and makes (with his account of self) a system which, if it is less than a completely coherent philosophy, is more than an episcopal assumption.

I shall first show how the usual conception of Berkeley's God arose. Locke had shown that our ideas of colour, taste and other secondary qualities depend on the percipient, but he held that primary qualities (shape, size, solidity, etc.) reside in the object just as we perceive them. Berkeley applied Locke's arguments about colour against shape and size, and showed that our ideas of the latter qualities were also relative to the percipient. Thus all my ideas depend on my perceiving them. This raises the obvious problem. "You ask me whether the books are in the study now, when no one is there to see them?"[1] "Upon shutting my eyes all the furniture in the room is reduced to nothing, and barely upon opening them it is again created."[2] Berkeley first suggests two inadequate solutions. "Whenever they [the books] are mentioned or discours'd of they are imagin'd and thought on. Therefore you can at no time ask me whether they exist or no, but by reason of that very question they must necessarily exist."[3] Not only perception but imagination (or conception) also confers existence, and it is therefore impossible to conceive something existing unconceived. He also suggests that physical objects may have a hypothetical or potential existence, anticipating Mill's view that an object is a permanent possibility of sensation. "The question whether the earth moves or no amounts in reality to no more than this, to wit, whether we have reason to con-

[1] C. i. 15. [2] P. § 45, i. 281. [3] C. i. 15. Cf. P. § 23. D. I, i. 411.

[All references are to the Oxford Edition of Berkeley's Works (Ed. Campbell Fraser, 4 vols., 1901) C. = *Commonplace Book*. P. = *Principles*. D. = *Dialogues*.]

clude, from what has been observed by astronomers, that if we were placed in such and such circumstances, and such or such a position, and distance both from the earth and sun, we should perceive the former to move among the choir of the planets "[1] Neither of these two solutions confer any real permanence or stability on the world of nature. "The trees are in the park, *i e.* whether I will or no, whether I imagine anything about them or no Let me but go thither and open my eyes by day, and I shall not avoid seeing them."[2] If *esse* is *percipi*, objects when perceived by no finite spirit must be kept in existence by God's perceiving them "Seeing that they . . . have an existence distinct from being perceived by me, *there must be some other Mind wherein they exist* As sure, therefore, as the sensible world really exists, so sure is there an infinite, omnipresent Spirit who contains and supports it."[3] This completes the orthodox account of Berkeley's view of the status of physical objects. The *esse* of ideas is *percipi*; the *esse* of spirit is *percipere*. "From what has been said it is evident that there is no other Substance than *Spirit*, or that which perceives "[4] "The question between me and the Materialists is not whether things have a *real* existence out of the mind of this or that person, but whether they have an *absolute* existence, distinct from being perceived by God, and exterior to *all* minds."[5] The *esse* of physical objects is therefore their being perceived by God. It is clear that this theory will save Berkeley from subjectivism, and it is to Divine perception that his editor, in defending him on the subjectivist charge, constantly makes appeal.[6] Yet it is a solution of the problem which excludes much of his most valuable work and raises more difficulties than it solves

The alternative theory can best be approached through Berkeley's account of power or activity. We usually speak as if conditions of physical objects were due to the activity of other physical objects. But, in reducing physical objects to ideas in the mind, Berkeley saw that this view of cause could not stand. If the *esse* of ideas is *percipi*, "it follows that there is nothing in them but what is perceived; but whoever shall attend to his ideas, whether of sense or of reflexion, will not perceive in them any power or activity."[7] Therefore "the very being of an idea implies passivity or inertness in it."[7] Sometimes, however, I know that I have created my own ideas. When I imagine a ship, I am aware of the image but also of the activity of my self. Here perception differs from imagination; if I perceive a ship, I have no such awareness of spiritual activity. "It is that passive recognition of my own ideas that denominates the mind perceiving—that being the very essence of perception or that

[1] P. § 58, i 290. [2] C 1. 65. [3] D. II, 1 424; Berkeley's italics Cf P. § 46.
[4] P § 7, i 261 [5] D. III, 1 452.
[6] Cf. 1 50, *n.* 4, 258, *n.* 3, 259, *n.* 5, and *passim.* [7] P. § 25, i 271.

wherein perception consists."[1] Since I am aware that I do not create my own ideas of perception, some other agent must produce them in me. "I find I can excite ideas in my mind at pleasure. . . . This making and unmaking of ideas doth very properly denominate the mind active. . . . But, whatever powers I may have over my own thoughts, I find the ideas actually perceived by Sense have not a like dependence on *my* will."[2] The agent which produces them cannot be matter, for "Doth not *Matter*, in the common current acceptation of the word, signify an extended, solid, moveable, unthinking, inactive substance?"[3] This was indeed the account of matter current in Berkeley's day. Subsequent theories of atoms as centres of force, and the replacement of the Indestructibility of Matter by the Conservation of Energy as the basic principle of physics, left later scientists a way out of Berkeley's dilemma which was closed to his contemporaries. Against them his argument was conclusive. Since the agent affecting me when I perceive cannot be matter, and since spirit can be active, the cause must be spirit. "There is therefore some other Will or Spirit that produces them."[4] The nature of this Spirit can be deduced from its effects on me, from the character of my ideas of sense. Its power is clear from the fact that, however I try, I cannot perceive things otherwise than as I do. "The ideas of Sense are more strong, lively, and distinct than those of the Imagination; they have likewise a steadiness, order, and coherence, and are not excited at random, as those which are the effects of human wills often are, but in a regular train or series—the admirable connexion whereof sufficiently testifies the wisdom and benevolence of its Author."[5] It may be noted in passing that Berkeley uses no arguments from theology to support his belief in the existence of God, nor does he appeal to religious experience. He holds, indeed, that we have no immediate intuition of God.[6]

From the argument so far several difficulties in the usual account at once emerge. If mind is essentially active and perceiving essentially passive the *esse* of mind cannot be *percipere*. At the one place where in the *Commonplace Book* Berkeley says the *esse* of mind is *percipere* he has added later "or *velle, i.e. agere*."[7] I am most myself not in perceiving but in willing or imagining. "This making or unmaking of ideas doth very properly denominate the mind active."[8] God is Spirit, and to suppose that He perceives would be to make Him the passive recipient of ideas impressed on Him by some more powerful agency. Volition and not perception is therefore our clue to the nature of God. "The Spirit—the active thing—that which is soul and God—is the Will alone."[9] "Substance of a spirit is that it acts,"

[1] C. i. 83. [2] P. §§ 28, 29, i. 272-3. [3] D. II, i. 429.
[4] P. § 29, i. 273. [5] P. § 30, i. 273. [6] C. i. 51. Cf. P. § 148.
[7] C. i. 10. [8] P. § 28, i. 273. [9] C. i. 41.

causes, wills, operates."[1] Nor can the *esse* of ideas be *percipi*. The *esse* of my own fancies is that they are imagined, created by me; of my sense-data that they are created in me by God. The *esse* of *God's* ideas (if we find any reason to believe in them, which we shall not) would be that they were imagined by Him, and even this is made difficult by Berkeley's view that imagination presupposes perception. "The having ideas is not the same thing with perception. A man may have ideas when he only imagines But then this imagination presupposeth perception "[2]

So we are led to a new conception of God, and of His relation to the stable world which our senses reveal. Its stability will now be due to the regularity and orderliness of His activity, and not to His permanently perceiving it. "Nothing without corresponds to our primary ideas but powers. Hence a direct and brief demonstration of an active, powerful Being, distinct from us, on whom we depend."[3] The laws of nature are not modes of relation between God's ideas, but "set rules, or established methods, wherein the Mind we depend on excites in us the ideas of Sense "[4] We learn that certain of our ideas regularly accompany others. This concomitance is due to "the Goodness and Wisdom of that Governing Spirit whose Will constitutes the laws of nature."[5] The situation is like that created by a "good resolution." If I resolve to tidy up my papers regularly on Ember Days, what exists permanently is a disposition of my will. What exists only on Ember Days is the spatial pattern I call "tidy papers." So the trees in the park are permanently represented only by a "resolve" of the will of God such that as occasion arises a spatial visual pattern (my idea of the trees) appears regularly in my mind The physical world is thus really a complicated "good resolution" of God's. Two further illustrations may be adduced to show how a spatial datum may be regular and reliable, but not itself permanent. If I run my head into a brick wall, I see stars. The stars are not permanently there; they are the regular product of the meeting of my wayward steps with the permanent wall. So the table I perceive has no permanent shape or size; it is the regular product of the collision of my wayward activity with the permanent volition of God. Again, a magnetic field is force in itself invisible, but such that when iron filings are introduced into it they form regular, visible patterns. The application is obvious. We noticed above that one of Berkeley's inadequate solutions of his main problem was to allow the physical world a hypothetical or potential existence. This solution is now made possible for us by our having some reality from which the possibility is derived—the orderly volitional activity of God.

[1] C. i. 53. [2] C. i 28 Cf. i. 52 [3] C i. 60.
[4] P. § 30, i. 273. [5] P. § 32, i. 274.

"Bodies, etc., do exist even when not perceived—they being powers in the active being."[1]

This complete and coherent theory is much more entitled to be regarded as Berkeley's main position than that previously sketched. It alone is consistent with his distinction between perception and imagination, with his view that spirit is essentially active, and with his account of the relation between finite spirits and God. There seems, indeed, to be no need whatever in such a system for the realm of God's ideas. Yet Berkeley appears to have believed in them, as several references show, and as one of his special discussions may illustrate. One of the earliest queries in the *Commonplace Book* is, "Qu: Whether succession of ideas in the Divine Intellect?"[2] He later answers this query in the negative, and is then faced with the problem of the meaning of the Creation. He solves it by saying that, while God's ideas have existed from eternity, Creation occurred when He made them perceptible to finite spirits. But if "they became perceptible in the same manner and order as is described in Genesis,"[3] a further difficulty appears. The creation of sun and moon could not have meant their becoming perceptible to man, who was created two days later. Berkeley ingeniously introduces the angels, "there being other intelligences before man was created."[4] Berkeley also gives reasons why we cannot dispense with God's ideas. God must be omniscient as well as omnipotent, for "to know everything knowable is certainly a perfection."[5] "There is in the Deity Understanding as well as Will. He is no blind agent, and in truth a blind agent is a contradiction."[6] In the Third Dialogue Hylas suggests that power alone is sufficient to account for our sense-data without God's having ideas. Philonous replies, "A thing which hath no ideas in itself cannot impart them to me."[7] This does not seem obvious, especially when he goes on to allow[8] that God, without having sense-data, can impart sense-data to me, and when we recall that all ideas are sense-data or are derived from them. "Ideas of Sense are the archetypes. Ideas of imagination, dreams, etc., are copies, images, of these."[9] I hope to show that, despite these definite expressions of opinion, Berkeley did not make the Divine Ideas an essential part of his system, and that there is good reason to doubt whether he believed in them at all.

There are many reasons why he should not believe in them. What is to be the relation between my ideas and God's? At this moment I have my idea of the table before me, and God has His. Surely this raises all the difficulties of a correspondence theory against which

[1] C. i. 61.
[2] C. i. 58, accepting the view of Lorenz that p. 58 is Berkeley's earliest writing. [3] Letter to Percival, i. 353. [4] C. i. 42. Cf. D. III, i. 472, 3.
[5] D. III, i. 459. [6] C. i. 51. [7] D. III, i. 457.
[8] D. III, i. 459. [9] C. i. 52. Cf. i. 28.

Berkeley fought so persistently. All that he says against Matter can be applied to attack this new correspondence. "Qu Did ever any man see any other things besides his own ideas, that he should compare them to these, and make these like unto them?"[1] "Well, say I, Do you apprehend or conceive what you say extension is like unto, or do you not? If the latter, how know you they are alike? How can you compare any things besides your own ideas?"[2] God's ideas are as useless as Matter in Locke's theory. "Ask a man, I mean a philosopher, why he supposes this vast structure, this compages of bodies? he shall be at a stand, he'll not have one word to say."[3] "But then, that they should suppose an innumerable multitude of created beings, which they acknowledge are not capable of producing any one effect in nature, and which therefore are made to no manner of purpose, since God might have done everything as well without them—this, I say, though we should allow it possible, must yet be a very unaccountable and extravagant supposition."[4] "How therefore can you suppose that an All-perfect Spirit, on whose Will all things have an absolute and immediate dependence, should need an instrument in His operations, or, not needing it, make use of it? Thus it seems to me you are obliged to own the use of a lifeless inactive instrument to be incompatible with the infinite perfection of God"[5] "The Will of an Omnipotent Spirit is no sooner exerted than executed, without the application of means."[6] In all these passages the objections are as valid against God's ideas—all ideas being inactive—as against Matter.

Again, if the reality our ideas represent is the world of God's ideas, Berkeley's principal claim for his theory must fall—his claim that it is a direct theory of perception "We must with the mob place certainty in the senses."[7] "There are others who say the wall is not white, the fire is not hot, etc. We Irishmen cannot attain to these truths."[8] "We see the house itself, the church itself; it being an idea and nothing more."[9] What I perceive directly is the physical object, and all theories to the contrary are agnostic. "The reverse of the Principle introduced Scepticism."[10] "Colour, figure, motion, extension, and the like, considered only as so many *sensations* in the mind, are perfectly known. . . . But, if they are looked on as notes or images referred to *things* or *archetypes existing without the mind*, then we are involved all in scepticism. We see only the appearances, and not the real qualities of things. . . . All this scepticism follows from our supposing a difference between *things* and *ideas*."[11] It follows no

[1] C. 1 61. [2] C 1. 82. [3] C. 1. 16.
[4] *P.* § 53, i. 287. *Cf. D.II, i. 427.* [5] D.II, i. 432.
[6] *Ibid.*, 433. [7] C. 1. 44, Cf. D.I, i. 383. [8] C. i. 91.
[9] C. i. 9. Cf. D.III, i. 463, and especially i. 445. " . . . the real things are those very things I see and feel." [10] C. i. 83. [11] P. § 87, i. 305-6. Cf. D.I, i. 382, 418.

less inevitably from supposing a difference between our ideas and God's.

A further reason why Berkeley might well have dispensed with a belief in Divine Ideas is his reiterated assertion that ideas are inert and passive,[1] and the fact that God's ideas would have necessarily to be spatial.[2] " 'Tis nevertheless of great use to religion to take extension out of our idea of God, and put a power in its place. It seems dangerous to suppose extension, which is manifestly inert, in God."[3] It is equally dangerous to suppose any ideas (for all are inert) in God, who is pure activity. "I do not understand how our ideas, which are things altogether passive and inert, can be the essence, or any part (or like any part) of the essence or substance of God, who is an impassive, indivisible, pure, active being."[4]

It may be suggested that Berkeley can avoid the correspondence difficulty and the scepticism it involves by identifying our ideas with God's. On this view, when we perceive, God reveals His ideas to us. "There is an *omnipresent eternal Mind*, which Knows and comprehends all things, and exhibits them to our view in such a manner . . . as He Himself hath ordained." [5] This view is still open to the objection that things passive and inert can be no part of God, and to the further difficulty that all our sense-data are private, because of our varied view-points, as the "New Theory of Vision" exhaustively proved. An identification of our ideas with God's is also attributed by Berkeley to Malebranche as the view "that we see all things in God," and attacked accordingly. The dualism might also be avoided by holding that, in the act of perceiving, my mind is identified with God's—the theory used by T. H. Green in the case of conceptual relation. But Berkeley was much too vague about the implications of personality, and too stout a spiritual pluralist for moral reasons, to rob the finite self of any independence. If both these theories are rejected, the correspondence with its difficulties must stand.

For the reasons given above, it does not seem likely that Berkeley himself believed in the Divine Ideas, at least as a necessary part of his system. It is true that he frequently mentions them, but we shall now show that some of these expressions are suggestively guarded. In one place [6] he discusses the view that "Matter, though it be not perceived by us, is nevertheless perceived by God, to whom it is the occasion of exciting ideas in our minds." He remarks first that this theory gives up the absolute independence of matter, and is therefore "the only intelligible one that I can pick from what is said of unknown occasions," but he adds that "it seems too extravagant to deserve a confutation." Yet this extravaganza is identified by most critics

[1] *E.g.* i. 10, 13, 37, 41, 271, 429.
[2] This will be defended later. See *Note* at end.
[3] C. i. 82.
[4] D.II, i. 426.
[5] D.III, i. 447.
[6] P. § 70–75. i. 296 ff.

with Berkeleianism. "The upshot of all is, that there are certain *unknown Ideas in the mind of God.*" "Whether there are such ideas in the mind of God I shall not dispute." [1] "I shall not dispute"—not only here, but in other places also, this is the best he can say for those Divine Ideas which are supposed to be the keystone of his own theory Philonous is prepared to "allow" Hylas that there may be certain things perceived by the mind of God, which are to Him the occasion of producing ideas in us [2] Berkeley is consulted on this very point by Rev Samuel Johnson, who aims here a more shrewd blow against the Bishop than his notorious namesake In reply Berkeley says he "has *no objection against calling the Ideas in the Mind of* God archetypes of ours "[3] He is prepared to "allow" Divine Ideas because they do not offend against his central doctrine that nothing is independent of Mind. But the admission is not readily made, for they are really foreign to his system

It remains to ask why he should have mentioned them at all. Three reasons can be found. He probably came to them first; the simple symmetry of the crude theory sketched at the beginning of this paper makes it an obvious first refuge for a sinking subjectivist. If, however, such a development took place, it must have preceded all his published works, for the *Commonplace Book* shows the mature theory complete. The only shred of evidence for this suggestion may perhaps be found in the alteration of *percipere* to *agere* as the *esse* of spirit.[4] Secondly, theological considerations about omniscience would suggest the addition of the Divine Ideas to his completed system. Thirdly, it is much less alarming and revolutionary to think of the trees in the park existing when nobody perceives them, because they, with all their friendly, familiar qualities, are perceived by God, than to think of them as represented in God's mind by powers or volitions quite unlike them in character Here is the real reason for the appearance of God's ideas in the published works, and especially in the popular Dialogues. In the *Commonplace Book*, Berkeley is uncompromising. "Bodies *taken for powers* do exist when not perceived." [5] "*Nothing* without corresponds to our primary ideas but powers." [6] But he resolves "Not to mention the combinations of powers, but to say the things—*the effects themselves*—do really exist, even when not actually perceived, but still with relation to perception." [7] And why? " 'Tis prudent to correct men's mistake without altering their language. *This makes truth glide into their souls insensibly.*"[8]

If it is said that Divine perception is after all a possible theory and is quite definitely asserted by Berkeley, a much more striking example of his way of "humouring" his audience "in their own way

[1] P. § 76, i 300. [2] D.II, i 434. [3] Letter to Johnson, quoted, u. 19
[4] C. i. 10, quoted above. [5] C. i. 82. [6] C. i. 60
[7] C. i. 50. Italics in last three quotations mine. [8] C. i. 71.

of talking"[1] can be adduced. In the *New Theory of Vision* he writes throughout as if tangible sense-data were independent of the percipient. The *Commonplace Book* shows that he had already decided that all sense-data were mind-dependent, so that this is part of a policy of gradualness. Not until the *Principles* does he attack tangibilia also. There is no question of development. The *Commonplace Book* (1705–8) gives the material for his whole system (except the technical term "notion"—the need of which is noted[2]); and the *New Theory* (1709), the *Principles* (1710), and the *Dialogues* (1713) show differences which are merely strategic. The Divine perception of the physical world is no more part of the system than is the independent reality of tangibilia. Both appear in the published works to mitigate the jar which the undiluted theory would administer to the plain man's system. The only difference between the two cases is that the reality of tangibilia (which is the more bluntly stated of the two) is incompatible with the whole system, while the existence of Divine Ideas conflicts only with parts of it, so that he can continue to treat their existence as an independently possible theological tenet, as the doctrine of the Trinity might be, but with as little connection with his philosophy as it has. "N.B. To use utmost caution not to give the least handle of offence to the Church or Churchmen."[3]

Campbell Fraser raises one point of difficulty for our insistence on the irrelevance of God's Ideas. The theory that our sense-data form a "natural language" continually recurs in Berkeley's works, and his editor explains the conception by saying "Sense-ideas are the letters of the alphabet in that language of natural order which God employs for the expression of *His* Ideas to us."[4] If this is correct, the natural language requires the existence of God's Ideas; otherwise the words of the language would be meaningless or express nothing. There are certainly difficulties about Berkeley's language theory. In the *New Theory of Vision* the words of the language were visible colours and shapes, and they stood for the real or tangible objects. But when tangibilia are overtly admitted to be mind-dependent a difficulty arises. If we say one type of sense-datum (visible) expresses another (tangible), we lose the distinction of status which we should expect to separate a language from what it means. If, on the other hand, we make the whole world of sense-data the language, and also eliminate God's Ideas as unknown and self-contradictory, what will the language express? Berkeley sometimes answers—the attributes of God. "The steady consistent methods of nature may not unfitly be styled the Language of its Author whereby he discovers his attributes to our view."[5] But in other places he says that sense-data stand for

[1] C. i. 92.
[2] i. 21, "improper . . . to make ourselves ideas, or thinking things ideas."
[3] C. i. 41. [4] i. 309, *n.* 2. [5] P. § 108, i. 317.

other sense-data; "the proper objects of sight"—light and colours—"do form a language wonderfully adapted to suggest and exhibit to us the distances, figures, situations, and various qualities of tangible objects . . as words suggest the things signified by them" [1] Perhaps a *modus vivendi* might be arranged by distinguishing what words *express* from what they *evince* If I say "There is the door," my words express a relation in space, but they evince anger. So God's words—our sense-data—express or suggest other sense-data, but evince His power and good will Whatever our solution may be, there is never a suggestion in the whole of Berkeley's work that the "natural language" stands for God's ideas This possibility is definitely rejected in the pamphlet *The Theory of Vision Vindicated and Explained*, which was published in 1732, and which is interesting also as giving one of the clearest statements of the view we have ventured to call "the real Berkeley" "The objects of sense . . are called ideas. . . From our ideas of sense, the inference of reason is good to power, cause, agent. But we may not infer that our ideas are like unto this Power, Cause, or Active Being. On the contrary, it seems evident that an idea can be only like another idea, and that in our ideas . . . there is nothing of power, causality, or agency included. . . Whenever, therefore, the appellation of sensible *object* is used in a determined, intelligible sense, it is not applied to signify this absolutely existing outward cause or power, but the ideas themselves produced thereby. Ideas which are observed to be connected together are vulgarly considered under the relation of cause and effect, whereas, in strict and philosophic truth, they are only related as sign to the thing signified."[2]

It may also be objected that we have left "Siris" out of account. The reasons are many. If we exclude "Siris," Berkeley's system shows no development except the use of the word "notion" to cover our knowledge of spirits and some dissatisfaction with his attack on Abstract Ideas. In the "Siris" we find a new world. Its Platonic mysticism, its toleration of forms and influences, its reverent agnosticism, its dependence on the *Timæus* and *Proclus*, are poles apart from the Berkeley of the other works. It is true that Divine Ideas are important in "Siris," but they are no more than those "Forms" of Plato which the misunderstandings of Albinus and his followers (popularized by the deceptive transliteration of the Greek word "idea") had transmuted into "Ideas in the Divine Mind." There is nothing Berkeleian about them. To attempt to unite the hints and gropings of "Siris" into some kind of dusky Christian Platonism, and then to regard the result as characteristic of Berkeley, would be like making the Catholic faith the central belief of Voltaire on the strength of his reputed death-bed conversion. Catholicism and Voltaire make as strange bed-fellows as "Siris" and Berkeley.

[1] *Alciphro* IV. 10, ii. 168. [2] *Op. cit.*, §§ 12, 13, ii. 386.

If it is said that God must have some theoretical activity—He cannot be a blind agent—our answer is that this may well be true, but that all Berkeley's main tenets preclude it. His mistake no doubt was to limit theoretical activity to the passive reception of sense-data and their imaginative reproduction, and thereby to make such experience impossible for God. But Berkeley without these limitations is not Berkeley, but Kant or (as in "Siris") Plato. If he had extended his so-called doctrine of notions from spirits to relations, as he did, and from relations to universals, as he did not, he could have allowed God to have notions. "God knows or has ideas, but his ideas are not conveyed to him by sense as ours are." [1] But the first extension, to relations, is illegitimate, for relations are passive and notions are of the active. Such extensions would take us far beyond Berkeleianism, though they might take us nearer truth. They would recall too much the methods of last century's Hegelians, who, when they had to examine a philosopher, tended inevitably to "elicit" from him the Hegelian position or to "develop" him until it emerged.[2] Berkeley in the history of philosophy must always be the Berkeley of 1705 to 1713, and that means a Berkeley to whom God is essentially Will and not Thought.

Note.—There are certain considerations which suggest that God's ideas, if He has any, must be spatial. We might be tempted to hold that they are "unknown" [3] in character, but represented to us by spatial data, as are Kant's things-in-themselves. In illustration of this we might quote the army system in which disciplinary relationships are represented in most languages by spatial terms. Lance-corporals and bombardiers are "on the same level," and "above them" are corporals. If a savage had this organization described to him, he would naturally suppose that an army meant a large pyramidal pile of men with a Field-Marshal sitting "at the top" and a thick layer of oppressed privates "at the bottom." The growing use of graphs has familiarized most people with this idea of representing a function with two variables (non-spatial in character) by means of a line plotted with the aid of two spatial axes. Why should not God's ideas (themselves non-sparial, like the spiritual relationships which unite an army) be represented to us by spatial sense-data (as we say "transfer, degrade, sous-officier, High Command," etc.)?

The answer is that the two dimensions in an army are not inter-convertible. You could explain to a savage movements in each "dimension" taken separately; the ease with which a private could become a corporal compared with the difficulty of his becoming a general marks one "dimension," the simplicity of transferring from

[1] D. III, i. 458.

[2] Cf. Caird on Kant, or Bosanquet on Plato.

[3] P. § 75, quoted, p. 25.

one company to another contrasted with the difficulty of the transfer to another regiment giving the other. But you could not combine the two in a single measure; the distance between a Sergeant in the Seaforths and a Private of the Buffs is strictly immeasurable In a spatial field there is such a "diagonal" distance. If X is three miles north of O and P is four miles west of X, then P is five miles northwest of O, both direction and distance being fully determinable. Space is a continuum whose three dimensions have a common unit of measure, and—here is the crucial point—it is the only continuum *of this kind, therefore if God's ideas are to have all the varieties of* relation which our ideas manifest, they must have a character which we find exemplified only in space itself. Otherwise the derivative will be richer in relations than that from which it is derived. Thus our illustrations by means of army organization, etc., all break down, and it seems that the reality our spatial ideas represent must itself be spatial. Here also, perhaps, we may find a reason for rejecting Berkeley's theory of the physical world, placing power in God, in favour of the view that places power in spatial centres. But the main aim of this paper was to determine what Berkeley himself believed, and not to find difficulties in his system

BIOLOGICAL DEISM

JOSEPH NEEDHAM, M.A., PH.D.

I

THOSE who still interest themselves in problems connected with God, Freedom, and Immortality are not accustomed to look to natural science for any light on these dark places. It is usually admitted that the scientific method operates with basic assumptions which are far from binding on philosophers, and which indeed have no very satisfactory metaphysical authority. In spite of a few protests by philosophers, scientific thinkers have on the whole felt entitled to neglect the philosophical consequences of their theories, and have gone ahead in the investigation of nature by accepting only such hypotheses as explained the maximum number of known facts, irrespective of their possible results on other fields of work. When a strictly scientific theory is invested with philosophical importance, some form of materialism, however well disguised, usually results.

The modern tendency to regard philosophy as simply an "activity" or method of criticism of the propositions of the natural sciences seems to get rid of the problems of God, Freedom, and Immortality by placing such subjects in the realm of the unspeakable, the realm about which it is impossible to formulate any statement which shall be logically sound. The result of philosophy, as Wittgenstein [1] says, is not a number of philosophical propositions, but rather the logical clarification of thoughts, the making propositions clear. And this view as Schlick [2] has pointed out, entirely precludes the possibility of there being any such thing as metaphysics, for the natural sciences are the only ontology we can have. "Most of the so-called metaphysical propositions are no propositions at all, but meaningless combinations of words, and the rest are not metaphysical but simply concealed scientific statements, the truth or falsehood of which can be ascertained by the ordinary methods of experience and observation."

Whether it would be advisable for the scientific worker to be suspicious of these tendencies in philosophy may well be questioned. While it might be in a certain sense agreeable to him to have his old enemy, metaphysics, done to death in this way, he may well

[1] L. Wittgenstein, *Tractatus Logico-Philosophicus*, 4·112.

[2] M. Schlick, Proceedings of the Seventh International Philosophical Congress, 1930.

ask whether, in order to criticize the concepts and propositions of natural science, some metaphysical foundation is not required. However, it is not my place as a biologist to enter upon the discussion of these very interesting but very difficult problems in philosophy, the purpose of this paper is rather to point to a certain number of instances in modern biology where biological speculation or theory appears to be so constructed as to be readily fitted in to the conclusions of philosophers and even theologians about man and the world And just as the scientific worker may legitimately be sceptical of the arguments of those philosophers who deny the existence of metaphysics, so the philosopher will probably be well advised to pause before he erects any speculative structure so made as to fit in with the scientific theories in question. The advisability of some note of warning will be more apparent when the cases have been described.

II

The first instance of a change in scientific outlook which might deeply affect contemporary thought is concerned more with astronomy than with biology, except in so far as the earth as the home of living organisms is the primary biological datum. Historians of ideas have never tired of pointing out the importance of the influence which the Copernican revolution in astronomy had upon man's conception of the universe. Where before the earth had been the theatre of the divine drama of the Incarnation, the centre of the visible universe, it became no more than the moon of a star. "The discovery that the earth," as Inge [1] has put it, "instead of being the centre of a finite universe, like a dish with a dish-cover above it, is a planet revolving round the sun, which itself is only one of millions of stars, tore into shreds the Christian map of the universe." All this is now a commonplace, but what is not so well understood is the fact that modern astronomy tends, in a certain sense, to return to the pre-Copernican position, not of course as asserting the earth to be the centre of the universe, but as concluding that celestial bodies anything like the earth are extraordinarily rarely found in space.

In the last century it was common, accepting the view of the universe contained in the paragraph taken from Inge above, to suppose that every star in the heavens presented the closest analogy with our own sun, and that each was possessed of a solar system in which revolved at any rate a certain number of planets resembling our own. The nineteenth-century biologist was thus invited to believe that the conditions on our earth which have made life possible were almost infinitely repeated in an appallingly large

[1] W. R. Inge, *Science, Religion and Reality*, 1925, p 357.

number of other solar systems. But this opinion can now no longer be held, for modern work in astronomy, which is summarized in the cosmological book of Jeans,[1] finds planets such as the earth to be extremely rare. There is no need to repeat here the list of narrow conditions of temperature, pressure, moisture, etc., which are requisite for the flourishing of biological systems; it is the rarity with which these seem to occur which is so interesting. The old view, as Jeans puts it, which considered every point of light in the sky as a possible home for life, is quite foreign to modern astronomy, for the very concept of life implies a considerable continuity of duration in time, and there cannot be any such thing at temperatures where atoms change their make-up millions of times every second, and no pair of atoms ever stay joined together. "We know of no type of astronomical body in which the conditions can be favourable to life except planets like our own revolving round a sun."

But planets only come into being when two stars approach one another close enough to induce a tidal action throwing out a long arm of incandescent gas which can condense locally into smaller bodies. And the closeness of approach must not be less than three star-diameters. "Calculation shows that even after a star has lived its life of millions of millions of years, the chance is still about a hundred thousand to one against its being a sun surrounded by planets." Far more common is the division of a star into two, forming a binary system such as we see in fairly near stars, such as Sirius and α-Centauri. And of course it goes without saying that any planet which is to support life must describe an orbit with very narrowly definable limits around the star which gave it its origin, for planets where liquids freeze, such as Neptune, are just as useless as planets where liquids boil, such as Mercury. "All this suggests that only an infinitesimally small corner of the universe can be in the least suited to form an abode of life. Primeval matter must go on transforming itself into radiation for millions of millions of years to produce a minute quantity of the inert ash on which life can exist. Then by an almost incredible accident this ash, and nothing else, must be torn out of the sun which has produced it, and condense into a planet. Even then this residue of ash must not be too hot or too cold, or life will be impossible."

Thus the astronomical work of Copernicus stands firm in its place in the scientific world-outlook; but what of the philosophical work with which he has always been credited? Would not the way almost be open, for any thinker with theological interests who wished to take it, to a re-establishment of that anthropocentric view of things which, as we always thought, was the most com-

[1] J. Jeans, *The Universe Around Us*, p. 331.

pletely dead of all mediæval superstitions? From the point of view of ethics, the traditional scientific emphasis on the immensity of the universe and the unimportant position of man, of living organisms as a whole, within it, seemed to liberate the human spirit from any preoccupation with the terrible responsibilities which had been the theme of both Greek and Christian theology. But if life should be so rare a thing in the universe, is there not a possibility that human responsibilities should again be taken seriously? And this is no mere academic question, for the scientific worker who appreciates the historical origins and conquests of what he stands for cannot see unmoved the return of the practical consequences of a profound belief in the anthropocentric universe. He will recall George Santayana's [1] sapphics—

But if they have forgot us, and the shifting
Of sands has buried deep our thousand cities,
Fell superstition then will seize upon them,
Protean error,

Will fill their panting heart with sickly phantoms
Of sudden blinding good and monstrous evil,
There will be miracles again, and torment,
Dungeon, and fagot,—

Until the patient earth, made dry and barren,
Sheds all her herbage in a final winter,
And the gods turn their eyes to some far distant
Bright constellation.

III

The mention of responsibility leads on, by a natural transition, to the questions which surround the subject of scientific determinism and the subjective conviction of free choice which man possesses Here also there are a good many indications that biological theory is being led to a position in which it might have no opposition to offer to the requirements even of classical theology on this subject.

Here the important factor is something which would at first sight appear far removed from any of these considerations, namely the size of living organisms And we have to discuss, in the first instance, not the size of mammals or birds as wholes, but the sizes of their constituent parts. The progress of knowledge during this century in physiology and biochemistry has given us a fairly clear idea of the general plan and constitution of the contents of a living cell. We know that a tissue cell of one of the higher animals, a cell, for instance, which together with millions of other similar

[1] G Santayana, *Poems*, 1922, p. 77.

cells makes up the central nervous system, consists of its cell membrane, its nucleus with the nuclear membrane, and its cytoplasm. The older view which attributed an anatomical fibrillar or network structure to the cytoplasm is now quite abandoned because the elaboration of techniques which permit us to examine the living cell without any interference with it has shown, practically speaking, no anatomical elements in the cytoplasm. We know the cytoplasm now to be a polyphasic colloidal system. Such a system can be pictured best by thinking of a homogeneous solution of a chemical substance in water, in which there float comparatively large globules of another chemical substance, immiscible with the medium, and consisting of a very large number of molecules gathered together (a colloidal aggregate). Within this globule there will be other globules existing in a similar dispersed condition, and others again within them. From these facts several conclusions follow: firstly, that the amount of surface in the living protoplasm is tremendously large relative to the mass of the whole system; secondly, that the main characteristic of the whole system is that it is extraordinarily heterogeneous; and thirdly, that the smallest constituent parts of it are very small indeed.

Exactly how small such constituent parts can be it is not possible as yet to say definitely, but as we know with accuracy the size of the atoms and molecules which enter into the composition of living matter, we find upon calculation that there is not much of a gap between the largest chemical molecules and the smallest colloidal phases which exist in the living cell. Similarly we can calculate a relation between the rarest chemical units and the size of the colloidal phases, in order to arrive at some idea of how many each would contain. When these calculations are made, it appears that a given colloidal phase in the interior of the cell-cytoplasm may contain only half a dozen of a given kind of molecule, or even as few as only one.

The same conclusion emerges with even more force if instead of considering a living cell in a tissue of one of the higher and larger organisms we consider the interior of one of the smaller unicellular organisms, such as the bacteria, or the ultra-filtrable viruses.[1] These latter organisms are so small as to be invisible with the ultramicroscope, and appear to possess an average diameter of $0{\cdot}025\,\mu$,[2] *i.e* about one-tenth the size of an ordinary bacillus, about the same size as the colloidal aggregates of dissolved hæmoglobin, and with room for only about 300 protein molecules. When it is remembered that the proteins form much the greater part by weight of living material, it can be seen that in such a small organism there

[1] See A. E. Boycott, *Proc. Roy. Soc. Med*, 1928, 22. 55.

[2] One μ is one-thousandth part of one millimetre.

could only be room for very few indeed of the rarer molecules, such as the sterol-compounds, and of the very rare molecules indeed, such as those of the vitamines, it would appear that only one organism in many thousands could, as it were, possess a copy. But it is not necessary to go as far as the vitamines for this conclusion, for there are chemical units of much simpler nature which may be equally rare and equally important A recent calculation by Peters [1] in the case of the hydrogen ion shows this At room temperature, as we believe, only one water molecule in 555,000,000 is dissociated into the hydrogen and hydroxyl ions, but when this number of water molecules is translated into terms of space, it is found to occupy a cube with a side of some $0{\cdot}25\,\mu$ in length, *i.e* much larger than any ultra-filtrable virus organism, and about on the lower limit of ordinary microscopic vision. This living being, then, would be likely to contain at pH $7{\cdot}0$ (the common acidity of living cells) only one hydrogen ion.

What is the bearing of this somewhat technical discussion on the wider problems with which this paper is concerned? It is this, that where one of this and two of that and three of something else are concerned, we have to deal with conditions very different from those in which the well-known statistical laws of physics and chemistry were worked out. What we are now facing is the behaviour of individual particles and not of particles in the mass.

Anyone who is at all familiar with theoretical physics will appreciate the bearing of these biological facts upon the demonstration, for instance, of the statistical nature of the second law of thermodynamics. The regularity of microscopic phenomena, in which determinism is for all intents and purposes complete and trustworthy, is in reality a statistical regularity, and we cannot ascribe a similar regularity to events in the ultra-microscopic field. On these grounds Lillie, in an extremely interesting paper,[2] has sought to deduce psychological indeterminism from physical indeterminism. The actual calculation that in the deepest recesses of living matter disentropic phases may, and probably do, occur is not a new one (see Donnan [3]), but Lillie's particular contribution was the realization of the way in which the living organism is constructed to take advantage of individual fluctuations occurring in the colloidal phases of its cells. The living body is specialized in an extraordinary way for transmission. "The response to any stimulus," as Lillie says, "implies the transmission of an activating influence from the localized site of stimulation throughout the larger functional area concerned in the response. In other words, the protoplasmic system

[1] R. A. Peters, *Trans Faraday Soc*, 1930

[2] R S. Lillie, "Physical Indeterminism and Vital Action," *Science*, 1927, *66* 139

[3] F G Donnan, *Journ Gen Physiol*, 1926, *8* 685

is characterized by a highly developed power of transmission." In this way it may be possible for an activity originating as a fluctuation in a minute protoplasmic phase to spread over the whole system, not only of the cell in which it occurs, but of all the cells in close connection with it. And in this way the behaviour of a higher organism, for instance, though indisputably determined as long as we confine our attention and analysis to the macroscopic phenomena involved in it, might really contain at bottom the element of individual action, of physical indeterminism. Lillie did not omit to give the often-quoted parallel of economic statistics, where correct predictions can be made of the number of voluntary acts such as suicide in a given population of individuals who are all subjectively convinced of their personal freedom. Free action, in any sense which could have a meaning for the philosopher, must presumably involve the conscious choice of the free agent between two or more alternative courses of action, and there seems no objection to seeing the physical side of this process in the unpredictable jump of an atom in one direction or the other. Only when the atoms are considered in very large numbers does prediction become possible, only when biological individuals are considered in very large numbers can predictions be made. "Just as submicroscopic events," says Lillie, "determine microscopic events (in biological systems), so behind or internal to the submicroscopic events we must assume a series of ultramicroscopic events reaching back by convergence into the field where the known types of physical determination are replaced by another type of determination, the special conditions of which we do not know. Apparently this type contains possibilities of a kind entirely different from those with which we are familiar from our experience of large-scale phenomena. In this field events occur which appear to be free, *i.e.* internally rather than externally determined, although as yet we can give no scientific account of the conditions of such determination."

IV

In thus considering the possibility of a recognition by science itself of an indeterminism at the basis of animal behaviour, we are brought to the borders of consciousness, and in this connection some interesting views have recently been put forward by geneticists. The relations between genetics and embryology have been very close for some years past, but the relations between genetics and psychology may be of even greater importance in the future.

The successive generations of a biological group such as humanity constitute, when looked at genetically, a great interwoven web. The

genes, the inherited particles which determine the potentialities of one particular individual, are derived partly from the maternal side and partly from the paternal, and so go back in branching fashion indefinitely In the same way the particular gene-combination which exists in the individual in question is not destined to endure intact, but will be split up and part united with a set of genes from some individual of the opposite sex to form an individual of the succeeding generation The personal peculiarities of the individual depend on what combination of strands has entered into him, modified of course by the environment which he has happened to have What are the relations between the conscious, feeling, experiencing, knowing self, that which can say "I," and the physical gene-combination?

This difficult question has recently been considered by Jennings.[1] "To an observer standing apart from the web, it will not appear surprising that the different knots, since they are formed of different combinations of strands, should have different peculiarities, different characteristics. But that the observer himself—his total possibility of experience, that without which the whole universe would be to him non-existent—that he himself should be tied in relations of identity to a single one of the millions of knots in the web of strands that have come down from the past—this to the observer appears astonishing, perplexing." The self is impelled to ask whether it must be regarded as so much the product of the gene-combination, that if that particular gene-combination had never existed it itself would never have existed. It is easy, knowing as we do the proportion of possible individuals which ever come to fruition, to calculate what the chances are that the combination which produced a given individual self should ever have been made. One of the pre-existing combinations in man, *i e.* one parent, produces during life about 17,000 germ-cells—the other considerably more, about 300 billions. As every germ-cell has a different combination of genes, and as any one of the 300 billions might have fertilized any one of the 17,000, the chance that any one particular combination of genes should be formed would be one in some five millions of billions. In addition to this, the chances against the union of either of the two parents in question have to be taken into account, and not only against their union, but also against their existence, since they came into being in a precisely similar way. "The system of notation which humanity has devised," as Jennings says, "would be inadequate to express the odds against the formation of the gene-combination of a given individual. If our conscious selves depend on the occurrence of the exact combination of genes, which

[1] H. S. Jennings, *The Biological Basis of Human Nature*, Faber & Faber, 1930.

as a matter of fact produced us, the odds are practically infinite against your existence or my existence."

Of the millions of billions of germ-cells produced, only four or five come to maturity. What of the possible personalities which are thus lost? If we regard the human personality as the highest and most real of entities, having value possessed by nothing else, as many philosophers have done, what is to be said of the infinite number of personalities whose existence was prepared for just as much as ours? The difficulties to which these facts give rise were felt very acutely, it is interesting to note, in the eighteenth century. The discovery of mammalian eggs by de Graaf[1] at the end of the seventeenth century was practically contemporary with the discovery of mammalian spermatozoa by Hamm and Leeuwenhoek.[2] But throughout practically the whole of the following hundred years there were disputes as to which of the two cells was the origin of the embryo, although to us it should have been obvious to common sense that both were required. There can be no doubt that one of the most powerful reasons which held back the acceptance of the spermatozoa as fundamental agents in generation was the difficulty of reconciling such prodigality on the part of nature with the doctrines of the soul which were universal in the eighteenth century. In 1757 d'Aumont[3] argued that nature would never be so prolific as to produce such millions of spermatic animalcules, each one with its soul, unnecessarily. In 1762 Cooke[4] elaborated a hypothesis of a "world of the unborn" to which spermatozoa could retire between each attempt to find a uterus in which to develop. But as time went on the facts proved too strong for the opponents of spermatozoa, and the picture of generation as we know it to-day was generally received. It was easy for the theologian to turn to scholastic examples, such as Duns Scotus, and to say that a soul was breathed into the body of the developing embryo when it had reached a stage of sufficient perfection to admit of it. But in modern times these simple solutions of the problem are of no avail, and since we know that genetical influences are not confined to physical characteristics, but include also, as far as we know, all mental characteristics too, the problem again presents itself before us.

Some other alternative, consistent with the facts of biology, may perhaps be found, and Jennings suggests that we may be wrong in our assumption that diversity of gene-combinations is wholly responsible for the origin of distinctness of selves. Cases exist where one and the same gene-combination gives rise to two distinct selves,

[1] R. de Graaf, *De Mulierum Organis Generationi*, Leyden, 1672.

[2] A. von Leeuwenhoek, *Phil. Trans. Roy. Soc.*, 1677, *12*. 1040.

[3] M. d'Aumont, article "Generation" in *Diderot's Encyclopædia*, 1757, vol. 7.

[4] J. Cooke, *New Theory of Generation*, London, 1762.

and these are what we know as identical twins. In such cases the egg divides into two separate individuals at a very early period in development, and subsequently the remarkable thing is, not that the twins are very like each other, not that there are differences between them, but that they are actually distinct selves, distinct personalities Conversely, by the use of suitable technique, two egg-cells which would, if not interfered with, have gone on and produced two separate individuals may be made to fuse into one and to produce one individual only. So far this has only been accomplished for eggs of marine invertebrates, but it seems that only technical difficulties hinder its accomplishment in the case of man. Would such a fused organism possess two selves, struggling with each other for the possession of consciousness, holding the field alternately, or combined in some way into one? Are the cases of dual personality which have been studied in man possibly the result of some such experiment performed for us by Nature?

No answer exists for these questions, but Jennings seriously considers the possibility that neither gene-combinations nor environment will separately or together be found sufficient to account for the phenomena of personality. If so, it might be necessary to hold that "the human self is an entity existing independently of genes and gene-combinations, and that it merely enters at times into relations with one of the knots formed by the living web. If one particular combination or knot should not occur, it would enter into relation with another. Each of us might perhaps have existed with quite different characteristics from those we have—as our characteristics would indeed by different if we had lived under different environments." Could biology envisage the possibility of a limited store of selves? Could it regard the occurrence of two particular germ-cells, which might or might not unite, as having no determining value for the existence of selves, but merely furnishing a substratum to which for reasons unknown one of them might become temporarily attached? The fact that these questions can now be asked is important; it shows that biology has no doctrine of the self and no evidence to offer at present concerning the relations between selves and gene-combinations. And the question is therefore still open as to whether philosophers and theologians might not choose to accept doctrines with which the biology of the nineteenth century would have had nothing to do.

V

We have now observed three instances of an apparently favourable attitude existing in science itself towards a view of the world usually regarded as foreign to that of science. The position of life

as a whole on the earth and of man in particular seems to be very much more unusual and rare than had before been supposed. The penetration by biochemistry into the constitution of the living cell seems to reveal a state of affairs where individual action on the part of atoms, molecules, ions, etc., may amount to a radical indeterminism. The consideration of the relation between the conscious self and the mechanism of heredity shows that there may be something for which gene-combinations and environment will not account. Among these three points there is much in common. It is as if, faced with difficulties arising out of the problems of science itself, scientific thinkers were dealing with them in such a way as to invite co-operation with philosophers and theologians. Room is left for contiguity of theoretic structure, just as one building in a reconstructed street leaves a serrated edge of bricks for the neighbouring one to fit into.

This is the sense in which the (perhaps not very well chosen) title of this paper was intended. It is not at all inconceivable that these perplexities in science may tempt philosophers and theologians to take them as of more than temporary significance and to erect upon them a structure (in a certain sense apologetic) justifying some, at any rate, of the positions that all religions have always held. Deism, though not in the form which left its mark on English eighteenth-century thought, has still its representatives, especially among the theological Modernists, and the John Tolands and Matthew Tindals of to-day are as desirous as ever of maintaining a predominant place for reason in religion. The purpose of this paper, however, is twofold: firstly, to describe three of the more interesting biological problems and the way in which they are being treated; and secondly, to deprecate the possibility of their being used as philosophical or theological arguments. The principal reason why the philosopher may be well advised to steer clear of them is that their nature is essentially passing and transitory, and the principal reason why the theologian should adopt extreme caution in considering them is that even were they not transitory, they have little to do with that irrational alogical element which is the most valuable contribution of religion to life.

That these dilemmas *are* transitory is surely at least probable. In the case of the astronomical speculations about the position of living organisms in the universe, there may easily be a reversion of thought once more to the Copernican view. For although at present it seems unlikely that life as we know it could exist on more than an infinitesimal few of the bodies in the heavens, there is no reason for supposing that life in general is life as we know it. The argument with which Henderson [1] has made us familiar, namely, that the

[1] L. J. Henderson, *The Fitness of the Environment*, Macmillan, 1913.

properties of the components of the earth are as closely fitted to the properties of living organisms as *vice versa*, can only be admitted with the proviso that if the properties of things had been very different, living organisms with very different properties might well have come into being. Without going too far away from obvious possibility, it is easy to conceive of a living matter based upon the chemistry of the tellurium or selenium compounds instead of on that of the carbon compounds. And even among the organisms of our own world, which are composed primarily of the element of carbon, there are certain (as we suppose, very primitive) types which manifest a totally different kind of metabolism from that which is found in other creatures from the ordinary bacteria upwards, namely, the autotrophic bacteria, which obtain their energy by oxidizing inorganic materials such as iron and sulphur, or gases such as methane and carbon monoxide.[1] These facts should induce in us a recognition of our ignorance concerning possible types of life other than those which we habitually call by that name, and should leave open the possibility of the attachment of selves, for instance, to fundamentally different collocations of elements.

An element of the transitory appears again in the discussions of possible physical indeterminism in the minute phases of living matter. The state of physics at the present time is one of very rapid change, and the exact degree to which it is possible to apply determinism is not known. The Heisenberg principle of indeterminacy, for instance, while accepted by some workers as quite ultimate and irreplaceable, is regarded by others as only of an interim nature, so that perhaps it may again be possible to apply the deterministic scheme to individual particles and their motions. With regard to the motions of particles in ultramicroscopic phases in living organisms, it would seem that we have already in our possession the statistical laws of their actions, namely, all those regularities which living organisms exhibit. A particle in such a phase may take, say, one of two courses it may react or not react, diffuse or not diffuse, and in 90 per cent. of cases it takes course A and not course B. Then the remaining 10 per cent. of cases simply represent the minority of aberrant results which are always met with in the making of any scientific generalization, for it must be remembered that, as Lillie has pointed out, the effects of the individual action in the ultramicroscopic phase, being transmitted by the peculiarly irritable nature of living matter, are mirrored on a macroscopic scale by the behaviour of the animal or whichever of its parts is under examination. The upshot of this discussion is that nothing "escapes" from the statistical laws which describe the behaviour of living organisms, except what could never be included in them, namely, the

[1] See M. Stephenson, *Bacterial Metabolism*, Longmans Green, 1930.

individual action and the corresponding impossibility of predicting it. In this way the principle of ultramicroscopic phases and their contents affords a satisfactory picture to the biologist, who thus succeeds in accounting for the otherwise mysterious capacity of choice possessed by individual animals, including himself, but it does not really make free choice any less mysterious for the philosopher. Moreover, if it should become possible, by means of the quantum theory or otherwise, to apply determinism theoretically to individual motions, then the scientific formulation would again move away from that of philosophy, and this may very possibly happen. For the regularities in quantum processes seem to be definite regularities, and no more to be infringed than the regularities of gross mechanics.

As for the deist theologian, it is to be feared that he will not welcome the information that the essence of religion is numinous experience. Any such assertion must, of course, seem unduly bold if it is unsupported by an elaboration of the theme, yet this is not the place or the opportunity to embark upon it. Should any deist, however, be under the impression that in order to make religion acceptable to the scientific worker it is primarily necessary to make it rational, he may be assured that this is not the case. Any satisfaction that can be got out of logical propositions may be found within the confines of science itself, for the outcome of the activity which we call natural science is doubtless propositions about things, and if we had to make a parallel we should have to say that the outcome of the activity which we call religion is judgments of value and numinous rites. Deism is the attempt to make religion scientific, an attempt which is foredoomed to failure, and if it be said that this is the negation of all theology, it may be answered that, after all, theologians are only philosophers who happen to be interested in religion and spend their lives, like poets, in trying to speak what cannot be spoken. There is at present a tendency among scientific thinkers to treat certain problems in such a way as to leave room for traditional theological and philosophical doctrines: or rather in such a way as to invite the expression of both in one all-inclusive formula. It may be predicted that this will not in the long run work, and that science and philosophy must go their own ways, avoiding all fusion as certain to lead to confusion. Biology on the one hand and Religion on the other are, some will say, indispensable properties of our existence; but biological deism, which happily we have not yet got actually with us, can never be more than a barren stirring together of immiscible opposites.

THE MESSAGE OF KANT

A C EWING MA D PHIL

It is very unfortunate that the philosopher who, as would be generally agreed, has had the greatest influence on modern thought is a writer whose style presents a particularly formidable barrier to the layman, or indeed to any reader tackling him for the first time, and this makes it all the more necessary that an effort should be made by those who have read and studied his works to communicate what they take to be the essential parts of his message. The present article is an attempt to fulfil a part of this function, *i.e.* to convey a few of the leading ideas of Kant's *Critique of Pure Reason*, while leaving aside altogether his other writings. I hope Kantian scholars will forgive me if in the attempt to make some of Kant's ideas clear in a very small space to readers who have not specialized in the subject but are interested in philosophy I seem not to do justice to the complexity of his finer distinctions. Also I had better add that this article is simply an attempt to state Kant's doctrine; it is not intended as an expression of my own views, and refrains from criticism.

Kant started with a problem which, although the formulation he gives it is his own, arises continually in the history of philosophy from Plato to the most recent times. He called it the problem of *a priori synthetic judgments*: it is the question how inferences can follow from their premises and yet give new knowledge not already assumed in the premises. The difficulty, expressed in colloquial language, is how we can get out of the premises what is not already in them, and if it is already in them, how inference can be anything more than a repetition of what we already know. Kant's solution, in general, is that the novelty of an inference must always depend on the presence of an empirical element, while pure thought can never originate anything fresh but only analyse what is already known. Experience can always tell us of fresh qualities not thought before by us. This did not, however, dispose of the difficulty raised by certain principles which, though they could be denied without any apparent self-contradiction, seemed to be both obviously true and necessary to science, and yet were *a priori* in character, telling us not that so-and-so had been observed to happen, but that everything which could possibly happen, whether it had been already observed or not, must conform to them. Examples of such principles are provided by the *a priori* judgments of mathematics, also by the

principle of causation, which is itself not provable empirically and yet on which the whole of science and all possible predictions as to the future seemed to depend. In dealing with these principles Kant developed a new method of proof which he called the *transcendental method*. It consisted in showing that without assuming such principles we could have no empirical knowledge or organized experience whatever, and that therefore we must choose between accepting them and taking the position of the absolute sceptic. Since *absolute* scepticism is an impossible alternative, this constitutes a proof of the truth of the principles. We cannot take the position of refusing to make any assertion whatever, of accepting nothing as true; a man may be a sceptic to a certain extent, but he cannot go as far as that in his scepticism. Indeed, even if he did, he would not be a very formidable opponent, for, in order to oppose, argument, and therefore assertion, is necessary, and the absolute sceptic would contradict himself the instant he spoke. All empirical knowledge (the term "experience" used by Kant may be regarded for this purpose as synonymous with "empirical knowledge") presupposes a certain organization of what we perceive, and this presupposes *a priori* principles or, as they are called in the *Critique of Pure Reason*, *categories*. especially it presupposes that there is a permanent element in the world, since change can only be known as against a permanent background (the category of substance); that all physical events are determined by causes preceding in time, since otherwise there would be no unity in change, and we cannot know a change even as a change without thinking it as a unity (the category of cause); and that all physical objects interact, since otherwise there would be no unity of the world in space, and unity, again, is a necessary condition of knowledge (the category of reciprocity). Kant tried to show that we cannot even think events in time without presupposing these categories, and that therefore the categories must be accepted if we are to have any knowledge at all.

Similarly, he argued that geometry was valid *a priori* of all external objects which we could know, because geometry followed from the nature of space, and we could not experience or know external objects except as they appeared to us in space. He thus claimed to have proved all the *a priori* principles which are essential to science by showing that they are involved in the conditions of all our "experience," or empirical knowledge, and it was this reference to the empirical which enabled them to give new knowledge (*i.e.* be "synthetic" principles, as he called it). Despite this empirical reference, they were still *a priori* and universal, because they were based not on particular experiences but on the nature of experience as such, and therefore must hold of all possible objects

of experience, everything of which we could ever be aware in our life.

A little while ago I said that for Kant all judgments giving new knowledge must involve an empirical element, but this is only half the truth, for his proof of the categories showed him likewise that they must involve an *a priori* element also For in none of them do we merely take given sense-data, in all what is given is organized by the mind applying certain principles If we discarded all *a priori* principles such as substance and cause, we could think nothing at all, for we can only think what has a certain form or unity Knowledge is the organization of what is given, and we could not organize it at all unless we went on the assumption that it must conform to laws. The only reason for preferring one theory to another in science must be that it systematizes our experience better. Kant was very probably wrong as to the precise character of the *a priori* knowledge involved in science, *e g* it would now be generally admitted that the principle of conservation of matter is at most an empirical generalization, and not, as Kant supposed, a fundamental law of thought provable *a priori* from the very nature of experience; and Kant, of course, does not anticipate Einstein in his treatment of the primary postulates of geometry and of the nature of space, but he surely is not wrong in insisting that some general principles of ordering are implied in all judgments and all science. His message is all the more important now, when many thinkers, without having refuted his arguments, dismiss the conceptions of cause [1] and law as indefensible in philosophy and unnecessary for science, and reject with scorn the whole idea of a rational, ordered universe, failing to see that in so doing they are cutting away the very branch on which they must sit if they are to have any science or philosophy at all.

The difficulties involved in the application of these *a priori* principles to reality, constitute the chief reason why Kant was what is usually called an "idealist." Knowledge involves the application of our laws of thought and our forms of perception to objects, but if objects are self-existent things quite independent of us, why should they conform to our laws of thought and our modes of perception? Is it not gross presumption to suppose that the laws of our little minds can dictate to reality what its nature should be? For Kant the only possible solution is to suppose that what we know is not reality but appearance. In that case there is no difficulty in

[1] Kant, however, thought of causation in phenomena not as involving mysterious dynamic powers in the objects, but only as equivalent to succession according to certain laws which made prediction possible. His view would therefore escape most of the objections commonly urged against "causality" or "necessity" in the physical world.

seeing why it should correspond to our laws of thought and our forms of perception, for otherwise it could not be known or experienced by us, *i.e.* could not appear to us, and therefore could not exist at all, since in any case it only exists as an appearance to us. Since physical objects only exist for our experience, which involves both their being perceived and their being thought by us, they must conform to our modes of perception and our categories of thought. We cannot hope to know ultimate reality; but we can indisputably know our own experience, and that, after all, is the only thing that can concern us. So far from thinking that this admission destroys or impairs the validity of science, Kant holds that it is the only possible way of saving science against philosophical scepticism, for he thinks that if science pretends to tell us about objects existing independently of our experience it is sheer illusion, and that it can only be saved by moderating its claims and admitting that it can give us knowledge only of appearances. On that view all the judgments of science and of everyday life about the physical world must be reinterpreted as statements not about the characteristics of physical objects as existing quite independently of us, but about what we in fact experience or should experience under given conditions. A law of nature means for Kant not that such-and-such an event must happen apart from our experience, but that we must always have a certain experience under given conditions. He does indeed admit "things-in-themselves" of which the physical world is the mere appearance, but he holds these to be absolutely unknowable, so it remains true of the physical world and the objects of science that they are nothing except for the experience of humanity. His case for "idealism" is strengthened by certain contradictions which he claims to find in the physical world, especially in connection with the problem of infinity, but his main reason is the one given above.

Whatever we think of the merits of this type of philosophical theory, we must recognize its enormous importance in the history of thought. In one form or other it dominated the philosophy of the nineteenth century almost entirely,[1] and now that the realist movement seems to have succeeded in shaking itself free of this way of thought in philosophy, we find it recurring ever more widely

[1] If we retain the "thing-in-itself," the doctrine remains an assertion that we cannot know anything about reality except in relation to our conscious experience. The step from this to the assertion that there is no reality out of relation to conscious experience seemed easy, though it makes a profound difference to one's philosophy. The former type of view may be traced in the agnostic and positivist writers of the last century, the latter in post-Kantian idealism, including Hegelianism, in the English thinkers influenced by Hegel, *e.g.* T. H. Green and Bosanquet, and in the followers of Croce and Gentile.

among those engaged in physical science. When a scientist argues that there can be no such thing as absolute position in space or time because we can only observe an object relatively to our own position, he is making the Kantian assumption that what we can say about the physical world only has meaning if it can be interpreted as a statement about what we observe or would observe under given conditions, and many scientific writers when they discuss philosophy now adopt views which are frankly "idealistic" in character. (Whether recent discoveries in science do really necessitate "idealism" is another question, which this is not the place to discuss.) In establishing "idealism" Kant was anticipated by Berkeley,[1] an author far too often decried by thinkers who ultimately have much more in common with him than they are willing to admit, and the two must share the credit; but Kant's idealism was undoubtedly the profounder. Unlike Berkeley, he emphasized not only the dependence of objects on mind, but also the dependence of at least our minds, as far as accessible to introspection, on objects; and, unlike Berkeley, he realized the importance and analysed the nature of the *a priori* elements in our thought and knowledge. It is not the business of this article to appraise or criticize "idealism" —I am not myself prepared to accept the view I have expounded— but, whatever we may think of its truth, its great influence (even if it was in many respects an unfortunate influence) on the development of thought cannot be denied. It has provided the starting-point for many philosophical systems which have at least done more justice to our higher experiences and approached nearer to a rational system of metaphysics than has been the case with any realist. It may of course be rejoined that perhaps no rational system is possible, and any appearance of the opposite is founded on illusion; but at least no one would be bold enough to maintain that we have nothing to learn from the great idealist philosophers, and their starting-point is always in one form or other the principle laid down by Kant (though they quickly discarded the unknowable thing-in-itself).

But whatever view we take of the physical world, we may admit that we can only arrive at conclusions about it by thinking of it *as it is for our experience, though it may also hold a great deal* more than what it holds for our experience. This fact seems to give the idealist point of view at the very least a certain relative validity

[1] Kant repudiates indignantly the form of idealism which he thinks Berkeley to have maintained, and while still calling himself an idealist in one sense of the term, actually gives various "refutations of idealism." But none of these involves the admission that we can know anything more than appearances, *i.e.* objects existing relatively to our experience, though the *Second Edition Refutation* suggests a valuable form of realism *within* idealism

within realism; and Kant in the later part of his life, and even in the second edition of the *Critique of Pure Reason*, was feeling his way towards a higher point of view which would combine realism and idealism.

But the value of the *Critique of Pure Reason* is not confined to the introduction of idealism. The most influential conceptions which we owe to the work, apart from its somewhat disputable idealism, are perhaps Kant's view of knowledge and of the world as a systematic unity, his double view of the self, and his doctrine that the conception of God must be founded primarily on Ethics, together with his doctrine of regulative ideas. I shall give a short note on each of these leading lines of thought.

First comes the conception of knowledge and of the world as a systematic unity. This point has already been mentioned in connection with the proof of the categories; but even a short article like this would seem grossly defective if it did not mention and explain the formidable term, transcendental unity of apperception. As a matter of fact, its meaning is much less difficult to comprehend than one would expect from Kant's way of expressing it. It may perhaps best be understood as signifying self-identity in knowledge. The object of knowledge is never a mere undifferentiated unity; it is always a diversity, a manifold. But to know it even as a manifold we must think that manifold as a unity, and this for Kant implies two things. First, it implies that the self is a unity in knowing or *qua* knower, for we could not think A and B together, unless the self that thought A were in some sense the same as the self that thought B, or, in other words, unless A and B could enter into the same unity of consciousness. Secondly, it implies that the object of the knowledge itself constitutes a systematic unity, since otherwise it would not have the unity necessary for it to be known. Further, Kant thinks that these two unities are inseparable from each other. He does not argue, like previous thinkers, that because the self is a unity in knowing it is therefore a unity absolutely; on the contrary, he contends that its unity can only be realized in unifying the manifold given to it by the senses, only exists as it unifies this manifold. For he has only proved that the self is a unity by pointing to the fact of knowledge, and therefore could not argue that the self had unity in other respects than as knowing objects (at least if we leave aside ethical grounds). That the self is identical means for him that the self knows objects as constituting a unity. Thus, while it is true that as an idealist Kant holds that the unity of objects is due to the self, he also holds that the self can only realize its unity, at least as far as we can tell, in knowing objects.

For Kant all knowing involves a "synthesis," that is, a putting

together and a holding together in thought of the object known. Kant often speaks as though in knowing we actually manufactured the physical world out of a chaotic manifold of sensations by ordering these in conformity with our *a priori* categories, and thus was the originator of the, in my view, mistaken but very influential notion that knowing is best conceived as a kind of making. But whether we agree with this view or not, we must admit that knowing, if not itself a making, always involves some kind of synthesizing, ordering process, though it is perhaps not necessary to regard that as affecting the object of knowledge All knowing, every possible judgment, presupposes or involves a bringing together of different concepts into a system From this to the view that truth consists in the coherence of judgments in a system is not a long step, and I think it is fair to claim Kant as the founder of the so-called "coherence theory" of truth, though he did not develop its important and numerous implications. Also, in developing his doctrine of the "synthesis," he was the author of one of the most important discoveries ever made in psychology, namely, that perception always involves conception, at least at the human level In bringing out the dynamic aspect of knowing as an active putting together of data he even anticipated the pragmatists.

Whatever we know we know as part of an objective world, and for Kant this means that it has to be referred to a system, since otherwise it would be incompatible with "the unity of experience." If we make any ordinary everyday judgment like, This table is round, or Iron is a metal, we are referring the qualities[1] round and metallic to objects. But what does this reference involve? Surely in so doing we are just making the quality referred a member of a system of facts of experience. For whatever "an object" means, it must mean at least a system of qualities and states; it may mean more, but it means this at any rate. And the conception of a system involves categories which carry with them a necessary connection between the different members of the system Kant would not hold that necessary connection was sufficient to make a thing one substance persisting in time, but he would hold that if there were not a necessary connection between its successive states it would not be an object at all. If, for instance, the successive states of an ordinary physical object like a table were not causally connected, it would not be true to say that these were successive states of the table; on the contrary, we should have to say that the table was

[1] The argument does not necessarily presuppose that all judgments can legitimately be reduced to subject-predicate form, and still holds if we attach more importance in logic than Kant did to relations, for in any case relations must be attached to terms and the process of relating involves making a system

annihilated each moment and a new one created *ex nihilo* to take its place. If certain experiences which we usually call observations of physical objects were not necessarily determined, so that, provided we choose to look, we must see so-and-so and not something quite different, we should have no means of distinguishing between genuine perceptions and illusions or between objective and subjective, for the distinction presupposes that genuine perceptions, experiences of the objective, are, so to speak, forced on us according to general laws, so that in certain important respects we have the same experience as any other human percipient under similar conditions. We can only arrive at the conception of a physical object at all by connecting different experiences of it which we and other people have at different times into a system; if we follow Kant's idealism, we will say it is merely that system of experiences; if we remain realists, we will say rather that, as far as it is known by us, it is the system of states which respectively give rise to these experiences. Kant had in view his doctrine that physical objects are not anything independent of us, but only our experiences as systematized; but personally I think that most of his arguments would, with only slight change, be valid also for the realist.

But there still remains the unknown thing-in-itself behind appearances, the belief in which was always retained by Kant, though rejected by his idealist successors. Kant held that we can only know things as they are in relation to our experience, as they appear to us, but he held that there was a reality behind the appearance. The nature of this reality we could not know; but we could in a sense know that there was something there, that the world was not merely appearances. A great deal in the appearances, the whole of their order and system, he explained by ascribing it to the constructive activity of our minds; but besides order there must be something to be ordered, besides relations there must be terms to be related, and this something be ascribed to things-in-themselves. The mind is responsible for ordering its world by the application of concepts, but it can only do so on the basis of data given in sensation, and, since we have no ground for supposing these to come from our mind or any other mind, we can only refer them to an unknowable x, the thing-in-itself. They must be due to something, but what the nature of that something is we, human beings, are not and, Kant thinks, never can be in a position to ascertain.

2. Kant's double view of the self. Any system of philosophy must admit that the self can be both knower and, at least in a sense, object known. The second is proved by the fact of introspection, the first by the occurrence of any knowledge at all. It is inexplicable that the self should be able to know not only

other objects but itself, that it should be at once subject and object to itself; but however inexplicable, we must accept it as a fact of experience. This Kant does, but he holds that it is not possible to know the real self, but only the self as it appears, this being indeed an inevitable consequence of his view that everything in time was mere appearance, not reality. This involves him in difficulties which we need not investigate here, but undoubtedly Kant was too inclined to suppose he could solve a problem by dismissing the thing which raised the problem as a mere appearance. For even appearances, since they are not simply nothing, must have some place in the real world. And it would generally be agreed that the distinction drawn by Kant between the real self and the appearance-self is too absolute to be tenable. But the self still possesses the two aspects mentioned by Kant, though perhaps it would be better not to regard one only as reality and degrade the other to mere appearance. From one point of view it is to be treated as any object of science; from another it is that for which in a sense all objects and all science exists. Some philosophers have held, like Kant, that this meant that the whole objective world depended on or was inseparable from the self as knower; but, whatever our views on this point, the distinction remains a highly important one. On the one hand, we must regard the self as a legitimate object of scientific study, and must examine it frankly and fearlessly, not hesitating to explain by causal laws everything that can be so explained; but, on the other hand, we must recognize that it is impossible ultimately to explain the fact of consciousness or knowledge in this way, that there is another aspect of the self, namely, the aspect of the self as knower, and that this aspect *in a sense* transcends the physical world and the temporal process altogether, since otherwise the self could not know what occurs at different times and places. This contrast is the basis of the whole attitude of idealist philosophy to the self: it enabled idealists, on the one hand, to insist that the sciences should be allowed free play even when they investigate what is so essential and sacred to us as our own self, and that even the self is subject to laws of causality; and, on the other, that the self is the only key to an understanding of the ultimate nature even of the physical world, and, in fact, of Reality as a whole. So it at once left psychology free to advance unencumbered by metaphysical presuppositions, and also safeguarded against naturalism what were held to be the spiritual interests of man. This does not prove its truth, but it was based on epistemological arguments which, though they win far less ready assent to-day, certainly cannot be dismissed lightly or adequately regarded as merely superficial fallacies due to a confusion between knowing and object known; and though it need not be accepted, it must not be despised

by a realist till he has worked out a richer and more coherent philosophy of mind than his opponents. But, as far as Kant is concerned, those who condemn such views as too dogmatic should remember that he protested in the strongest terms against any definite assertion as to the ultimate nature of the self, or the spiritual character of reality. The knowing self to Kant can only be known in its effects, *i.e.* knowledge, not in its own nature.

This brings us to the third point, the conception of regulative ideas. The philosophers prior to Kant had commonly treated God as being an object of knowledge in the same sense as any of the entities conceived by science. Further, since God was *ex hypothesi* omnipotent, they were thereby provided with a universal panacea for all intellectual difficulties, and indeed for all discrepancies between the facts and their pet theories: they could always say, God had willed it so, or, This phenomenon must be explained by the intervention of God, since it was inexplicable and impossible according to the laws of nature. Anyone who is familiar with even such great thinkers as Descartes and Leibniz will have no difficulty in finding examples of this practice in their writings, and if so, how must it have been abused by lesser men! Kant was convinced that to employ the conception of God in this fashion was not to solve a difficulty, but to say it was solved by some unknown means, to explain *ignolum per ignotius*, instead of striving to discover the natural causes involved by patient investigation or admitting our ignorance honestly if we could not achieve success in that way. It was therefore a mere piece of intellectual laziness fatal to the progress of real knowledge. As applied in philosophy, the method represented to Kant an extension of pure thought into a region where we could form no definite conceptions at all owing to the total absence of material provided by experience, and therefore were merely using terms without a meaning; as applied in science, it must always be futile, because to say that a particular phenomenon is due to God is only saying what, if true of any phenomena, must be true of all, and is therefore no help in explaining any particular one. This point needs little emphasis to-day; the Kantian attitude has triumphed so far that no scientific textbook would ever explain phenomena, the natural cause of which it could not find, by reference to the direct act of God, and at the same time we are all coming to realize, as Kant did, that the fact that phenomena follow laws and have physical causes need not be in the least inconsistent with their being ultimately due to some higher principle altogether, which we may perhaps call God. Kant was one of the pioneers of the "descriptive" theory of science, though he, I think rightly, still emphasizes "necessity" as involved in the causal connection. The discovery of causes in the sciences meant for him

the discovery of the laws according to which phenomena in fact occurred, *i.e.* finding what phenomena regularly followed other phenomena; it did not mean an ultimate explanation, for he realized as clearly as anyone that though we discover "laws of nature" in science, we can never see *why* these laws should hold good. We know, in fact, that water is made of oxygen and hydrogen, but we do not know *why* they should produce such a compound, and therefore cannot make the presence and properties of water any more intelligible by the discovery *that* they do Since, therefore, scientific laws can give no ultimate explanation, it is quite possible that the laws may hold good universally among phenomena, and yet that the phenomenal, physical world may owe its existence to and find its real explanation in something quite different.

Kant, however, asserted that we can have no knowledge of reality at all, only of appearances. Even our own selves, he had said, we cannot possibly know as they really are, only as they appear to us Nor would he admit that the appearances could give any clue to the reality whatever. But while he never admitted knowledge in the real sense of anything beyond appearances, he admitted something which, though not knowledge, was sufficient to justify a practical faith in God and immortality, and similarly in regard to human freedom, though his attitude is somewhat more positive there. Most philosophers would not now agree with Kant's particular way of distinguishing what we can know and what we cannot; and, indeed, if Kant had carried out his principles logically, he would have had to deny that we can either have knowledge or even hold a justified opinion in regard to many points (quite outside the sphere of religious controversy) where we must admit that we can. But however that may be, Kant did a great service to thought and religion in showing that we must not treat God as a concept of science, but rather as an ideal founded on our ethical experience, while not abating his faith in the moral government of the world and in the real existence of the being to whom this ideal has reference.

Kant drew a distinction between two kinds of principles, which he called *constitutive* and *regulative* respectively. The former, of which causality is an example, we can prove as necessary if we are to have any empirical knowledge or ordered experience at all; the latter are rather of the nature of ideals as to what we hope the world will turn out to be. These "regulative ideas" are not proved or provable by us, at least in the strict sense of the term; but they are not therefore useless, for they still serve the valuable purpose of stimulating and guiding us in research. The valid ideas connected with religion are for Kant regulative, not constitutive, in character, but they are far from being the only regulative principles. There are other vitally important unifying ideas connected not with

religion but with science. Thus the idea of the physical world as a complete system in which everything follows from a few simple principles must not be accepted as a self-evident truth; but it is all the same very useful, since it encourages us to find what unity there is and suggests to us hypotheses that bring together under one law or one system of laws phenomena originally explained by quite separate principles. All these hypotheses must be tested by their conformity with experience; but in order to advance in science it is not enough to experience or observe, we must also think of hypotheses on the basis of which to systematize the observed facts. This is indeed the fatal difficulty which prevents any ordinary man from being a great scientific discoverer; his eyes are as good as Newton's, but he does not know, and probably, even after a scientific training, could not think of the right facts to observe, *i.e.* those facts that are relevant, that are likely to prove some new law. There are no rules available the mere application of which will enable a man either to hit on new ideas or select the right facts to observe; but such is the difficulty of achieving this successfully that we cannot afford to dispense with any help available, and these very general ideas, if not dogmatically asserted as facts but rather sought as ideals, will often help, and have often helped in the past, to put scientists on the track of the right solution. Thus the "regulative idea" mentioned by Kant of a continuous succession of variations connecting the different species of animals, which at that time to all experience seemed so far apart, so absolutely separate from each other, has later been confirmed in the theory of evolution; but it must have been present in somebody's mind as an unestablished but promising general idea before he could even think of the hypothesis of evolution. The mechanistic view of the physical world is itself a regulative idea, according to Kant's later view, since it cannot be proved but provides a promising line of explanation. The scientist must not assert positively that everything physical is to be accounted for mechanistically, but he must try to find mechanism wherever he can; mechanism[1] need not be universal, but to look for it everywhere is the only way of finding out what there is of it. And Kant treats in a similar way the postulate that every part of a living organism must be regarded as fulfilling some biological purpose;[2] to say that both principles are

[1] Kant holds that universal causality is a constitutive, not a regulative, principle, but in the *Critique of Judgment*, where he deals with the problem specially, he treats mechanism not as synonymous with causation but as being a special kind of causation. But in the *Critique of Pure Reason* and his main ethical works he seems to regard all causation among phenomena as mechanistic. These were, however, written earlier.

[2] *I.e.*, for the benefit of the creature itself, not necessarily of man or other creatures.

regulative but not constitutive is his way of reconciling mechanism and teleology. The categories as constitutive principles give that measure of unity and rational system without which there could be no knowledge or ordered experience at all, the regulative principles (Kant commonly calls them "ideas of reason") stand for a higher degree of unity, system, and intelligibility which we cannot know, but may hope and, at least in some cases, even believe to be ultimately realized or realizable. But their utility lies not in any information they can give about the nature either of reality or of the phenomenal world, but in encouraging and helping us in the theoretical sphere to seek for more unity and intelligibility than we have yet found, and in the practical sphere to strive for the attainment of a supreme good that we under their inspiration treat as ultimately realizable. They represent not finished results to be accepted *a priori*, but a hope, a policy, an ideal.

ON DOING ONE'S BEST

PROFESSOR JOHN LAIRD

I

ON page 157 of Bradley's *Ethical Studies* (the second edition) the following passage occurs: "There are few laws a breach of which (in obedience to a higher law) morality does not allow, and I believe there is none which is not to be broken in conceivable (imaginable) circumstances, though the necessity of deciding the question does not practically occur." And Bradley added the extremely significant footnote: "Except, of course, the universal law to do the best we can in the circumstances."

This footnote plainly contains the implication that there is one, and only one, moral obligation or imperative which is *never* overborne by a higher obligation or imperative. This is the obligation to do the best we can in any situation in which we may find ourselves; and the supreme imperative thus expressed is the ultimate moral determinant of all responsible action.

There are many who consider this principle self-evident, and who draw the consequence that "right" and "good" are not, even relatively, independent (as some allege), but, contrariwise, that "good" (*i.e.* in its superlative "best") does in the last analysis determine "right" (*i.e.* what anyone ought to do). Moreover, I am confident that many who doubt the principle, or who find a doubt gradually instilling itself just because they doubt the consequence I have mentioned, are, at any rate, not prepared to deny that the principle, to say the least, is very plausible indeed.

There is, however, a snare in plausibilities, and those cautious persons who are prepared to affirm only that the principle is superficially evident or highly plausible are certainly justified in asking whether it is possible to make the principle itself a little more explicit. For it might be applied (might it not?) in a good many different ways.

I propose, then, in this discussion to examine the *meaning* of Bradley's principle, without special reference to Bradley's ethical system or to any other. Furthermore, since the exegesis of the meaning of the principle is big enough (probably a good deal too big) for the space at my disposal, I shall leave the consequences of the principle to look after themselves. Even if the principle did not have the ultimate and quite crucial importance that Bradley (casually) claimed for it, it would, on any theory, be of considerable moment.

ON DOING ONE'S BEST

For a man who tries to do his best, or to "make the best of it," cannot, in general, be acting quite foolishly; and we all, very frequently, do make this endeavour

II

In the first place, then, the principle clearly implies, *prima facie*, that we have an effective control over certain situations, and can decide between alternative courses of action, each of which *might* be our own act.

This is obviously a denial of fatalism, in the ordinary workaday sense of fatalism, which denies us the power of altering the course of events. Thus Dickens, in his despair, wrote: "It is not with me, a matter of will, or trial, or sufferance, or good humour, or making the best of it, or making the worst of it, any longer. It is all despairingly over. Have no lingering hope of me, or for me, in this association. A dismal failure has to be borne, and there an end" [1] Fatalism, of course, need not be dismal. For one's lot might be supremely fortunate. But fatalism does deny the possibility of making the best of it, or of making the worst of it.

It seems worth while inquiring, however, whether the principle denies, not fatalism only, but every species of philosophical determinism. To be sure, we are frequently informed by very modish writers that philosophical determinism has become something of a bogy now that it is legitimate for scientists like Schrodinger to postulate the indeterminacy of molecular, or ultra-molecular, mites. It is no longer necessary to hold that "iron" necessity rules throughout nature except (shall we say?) in the privileged sphere of the human will. Indeed, some scientists appear to be beginning to suspect that the human mind, and with it the human will, is the *least* determined event in nature, since it is "orderly," and atoms exemplify "randomness."

Nevertheless, a good many people, not quite irrationally, find it strange to believe that anything whatsoever, or any feature of anything, even the least, can happen *for no reason at all*. Such persons cannot be content with Dr. Johnson's famous saying, "Sir, *the will is free, and there's an end on't.*" *They may even doubt* whether it is legitimate to say, "Sirs, the will is free, and there's a beginning on't." Consequently, it seems reasonable to ask whether injunctions to "make the best of it" could have any meaning whatsoever if, in reality, every event in human nature were uniquely determined.

Clearly, on deterministic principles, we might correctly say: "A good man (or the best of men) would do so-and-so in such-and-such a

[1] Forster's *Life*, vol. III p. 173

situation. A bad man (or a born devil) would do something quite different." Such statements say nothing whatsoever concerning the necessity or indeterminacy of good or bad action. They presuppose only that we can distinguish between good and bad action in the universe.

Again, instead of talking about good men and bad men in general, we might make our statements a good deal more pertinent to particular cases. For speaking as complete determinists we might legitimately say: "A man similar to you, and having similar antecedents, conceptions, capacities, etc., would do well if he acted in such-and-such a way in your situation, and would do ill if he acted in such-and-such another way."

It is easy to reply, of course, that similarity is not identity, and that very similar, but non-identical, beings may react very differently indeed to the same situation. But let us consider. Whether or not our actions *are* uniquely determined, neither we nor anybody else can *know* for certain how, or even that, they are determined. We know so little about ourselves, and other people know so little about us, that in regard to all our obscurer motives we cannot *appear* otherwise than as beings capable of several alternative courses of action. So far as our personal knowledge goes we are in a libertarian and not in a completely determinist situation.

Again, it is to be remembered that much of the discussion, at this point, is concerned with the efficacy of ideas (including ideas of right and wrong, good and bad) upon our actions, and of the extent to which we can be moved by commands, injunctions, advice, examples, fear of penalties, etc. On deterministic principles, however, there is no reason in the world why such injunctions and such motives should not influence us.

Therefore, according to determinism, it need not be useless to urge a man to act in *this* way and not to act in *that* way. Such exhortations might quite well be effective; and the man cannot say for certain, "I know I am not the sort of person who could act in *this* way," even if it were true in fact that there was only *one* thing he could do. Man is too much of a riddle to himself to have such knowledge.

I fear, however, that any injunction to "do the best one can" has (to use modern philosophical slang) a slightly Pickwickian flavour, unless it can properly be enjoined in the libertarian's sense.

III

In the second place, it is manifestly necessary to give some account of the "good" and of the comparison of what is good in terms of Bradley's principle. For "best" is the superlative of which "good"

is the positive, and "the best under the circumstances" is that which maximizes the good that is possible and minimizes the evil that might come about.

Regarding what is "good" in the sense here intended, it seems essential to point out that although doing one's best, or attempting to do one's best, is here represented as the supreme and as an invariable *moral duty, it does not follow that the good which is sought* is any way intrinsically moral.

Some moralists consider this statement paradoxical or worse. They believe, *to speak with sententious pseudo-simplicity, that* " 'tis only noble to be good." Or they are more Kantian than Kant (who held that there were other goods, viz., conditioned ones, besides the good will), and maintain that the *morally* good will *is*, or is the sole author of, *all* that is good. If we examine the question directly, and quite simply, however, we readily perceive that these contentions are mistaken

Consider, for instance, such duties as self-culture or active beneficence. The first of these is the duty of cultivating one's talents, and plainly this duty must include much more than the mere cultivation of one's *moral* talents. A ship's officer who becomes as skilful a navigator as he can; a man of letters who becomes as expert in his craft as it is in him to become, a lover of beauty who gives himself to beauty with his whole soul—all these are making the best of themselves in some department of human culture. These attainments are not in any ordinary sense "moral," although the duty of endeavouring after them may be, and in many cases *is*, moral. What is more, the standards involved are not directly moral standards. It is æsthetics, for example, not ethics, that is the judge of beauty in art. Ethics has to accept æsthetic standards concerning what makes fine art fine; and it limits those standards at most in the sense that if what is lovely is also manifestly evil, such *fleurs du mal* should be banished from art.

Similarly in the instance of beneficence. It may well be a moral duty to strive for the comfort, health, and happiness of others, *although these things in themselves, or rather in the recipients, need* not be moral at all. There is nothing particularly moral in being free from tuberculosis, but it may well be a moral duty to diminish the chances *of contracting* tuberculosis by housing the people better. A parent is hardly doing his duty by his children if he does not give them the opportunity of fresh air and recreation in the country. Nevertheless *their* enjoyment, which *he* aims at, need not be moral at all. It may consist wholly in high spirits and in animal delight.

In short, the "best" according to Bradley's principle must be the best relatively to all possible goods, and in comparison with all possible evils, where "good" and "evil" are understood in the widest

sense possible, that is to say where values (as opposed to disvalues) of every species are included. Every value is admitted that might conceivably justify or tend to justify any man's action by bringing about a result that was worth anyone's while. There is no question of being concerned simply with virtue on the one hand and with sin on the other.

IV

It would seem, then, that in order to discover the best we can do we must theoretically be able to compare the entire range of goods and evils *inter se*. Is any such comparison authentically possible?

It is generally agreed nowadays, and, besides, it is pretty obvious of itself, that goods are much more diverse than pleasures, evils much more diverse than pains. A "moral arithmetic" in terms of algedonic (or pleasure-pain) units is in any case a proceeding that rests upon most dubious foundations. If, however, it is further conceded that such algedonic arithmetic neither is, nor bears any constant proportion to, the real overbalance of good and evil in most given cases, there is no point in debating these abstract questions concerning the arithmetic of pleasure-pain.

Can we, however, speak intelligibly of an overbalance of "good" or of the maximization of good in relation to evil?

Such language suggests an arithmetic of value, and in that case we have to ask what the value-units are, and what the disvalue-units are. This question seems likely to gravel a good many of us. It is most plausibly attacked by some doctrine of "marginal" preferences, always assuming that the preferences in question are good preferences, not simply statistical statements (if we could get reliable ones) concerning men's actual inclinations at any given time. Even so, however, the procedure is pretty obviously arbitrary; and the short of the whole story is that an arithmetic of value is a science (or pseudo-science) with very shaky foundations.

Suppose, however, we renounce the dream of a well-grounded or convincing value-arithmetic. In that case we might still maintain that significant and important comparisons of value are possible throughout the realm of values, and that the untidy and ramblingly pluralistic character of our moral theory is not appreciably worse than the untidiness of any other moral theory except for the very few moral theories that profess (not at all convincingly) to employ a single principle only.

This seems reasonable, or, at any rate, not unreasonable. Nevertheless it implies a belief in the general, if not even in the universal, *comparability* of all goods with one another and with all evils. And any such general comparability of goods and evils is strenuously disputed in many quarters.

Consider, for instance, what an ascetic moralist would say—and asceticism in some form is always with us, whether the form be industrial, athletic, sexual, artistic, patriotic, or religious. A moderate ascetic need not deny that many things which are not the best (let us say the "innocent" pleasures of the body) have a certain subordinate value. They are better, other things being equal, than gloom and animal misery Such subordinate goods, however, according to the ascetic, are in no respect comparable to the goods of the mind, or of other-worldliness, or of any other supreme excellence upon which the particular brand of asceticism is based. According to the ascetic, any attempt to conjecture how much of a lower good is equal, or nearly equal, to a particular quantity of a higher one is more than half-way to betraying the higher. Between the two a great gulf is fixed

It must be confessed, therefore, that there are serious difficulties in this matter. For if the ascetic view were true, it would follow that *no* amount of suffering, let us say, could equal in disvalue a single passing suspicion of impurity, and that also is an extreme paradox.

Perhaps, however, the problem is simpler than it looks. For if, as commonly in asceticism, there are held to be only two classes of goods, viz , the pure goods which alone are greatly good, and the muddy and mixed goods whose value, even in an infinite degree, is never comparable to the value of the pure goods, it would follow that the best must always be reckoned in the currency of the pure good whenever the pure good is possible (since the lower in comparison with the higher does not count *at all*), and that, where the higher is not possible, the comparison is between lower and subordinate goods pretty closely akin This, if it were true, would simplify the problem of discovering the best. And although the problem would be more complicated if there were more than two classes of comparable goods and evils, each such class being incomparable with any other class, although the classes form an ascending ladder, the best (and perhaps the worst) might not be beyond all conjecture—if only we knew where the rungs in the ladder were placed.

At the same time, it seems plain that there is a veritable thicket of minor, but still of very serious, difficulties in this affair, and I shall mention two of them·—

(*a*) Assuming that some sort of trustworthy balance (not necessarily an arithmetical balance) between possible goods and evils may be struck in a great many or in most situations, can we say, quite simply, that we ought to adopt the course that shows the greatest overbalance of good, or, in unfortunate situations, the smallest underbalance? The answer does not seem to be clear, for it might readily be contended that a smaller overbalance in which much good (even perhaps of the tamer sort) were mixed with very

little evil (or with no evil at all) was better than a larger overbalance of good in which, despite the overbalance, there was also a great deal of foul and ugly evil. Even if the saints prevail, is a universe containing great saints and great sinners really better than one in which there is little serious vice, although, for the most part, only middling virtue? What truth, if any, is contained in the ingenious saying, *Redemptio pessimi optima?* It is possible, I concede, that the problem so stated contains some confusion regarding the reckoning of evil. There is a tendency to count the disvalue of evil twice over, once in the original reckoning, once again in horror at the extent of it even when it is overbalanced. But I do not think the question is easy to answer.

(*b*) Again, there is the problem of what Bentham called the "extent" of good and evil. Even if we adopted the simple and rather dubious principle of Benthamite democracy, viz., that each, unless for strong cause shown, is to count for one, and no one for more than one, we should still have to ask whether a slight and mediocre general welfare might not be preferable to a state of affairs in which a very few were supremely fortunate and the great majority in a neutral condition, even if the total overbalance of good were greater in the second case than in the first. Sydney Smith, if I remember him rightly, contended that the system of blanks and prizes in the emoluments of the Anglican clergy was better than the relatively comfortable mediocrity of the incomes of dissenting ministers. Was there any substance in his contention? If not, why precisely was it wrong?

V

We have now discussed, or at any rate have indicated certain considerations that concern, the questions, firstly, whether there are moral alternatives in action, and secondly, what are the implications of the assessment of the values of such alternatives. But there is still much to interpret in Bradley's formula.

One possible meaning of "doing one's best," and, still more, of "making the best of it," would be an ethic of results. On this view an action is to be commended, morally speaking, if we adapt ourselves to our situation in such a way as to extract from the situation the most advantageous outcome that is possible.

On this interpretation the formula, regarded as a principle of moral theory, is manifestly open to very serious objection. I will not say that wisdom after the event, although it is (comparatively) easy, is useless. For how can we form any forecast of the future except upon the basis of a knowledge of past results? And if our expectations, in the normal case, bear no intelligible relation to the actual outcome, what is the point of looking ahead at all? Again, I will not say,

although it might be true, that the time-process is never closed, and consequently that what has had fortunate results up to the present may turn out to be a calamity in the end. No doubt, if our standards of value and our ascertainment of fact are hopelessly mistaken, it might be prudent to call no human actions successful until human history has ceased. The whole trend of what we call civilization may be a gigantic mistake, as future generations may come to see. On the other hand, if our standards of value and our information concerning fact have some health in them (and otherwise it seems meaningless to discuss the goodness of results or of anything else), we seem to have very good evidence both that a great deal in the past may reasonably be regarded as closed (having but an infinitesimal importance over what succeeded it), and that among these closed processes some were good and others bad.

What I mean is rather that if the "best" meant "the best results," there would be an insurmountable hiatus between the terms of this moral theory on the one hand, and the actual live situation of any moral agent on the other hand. All action is, in one sense, adventurous. We never can be quite sure concerning what will come of it. However prudent we may be, we always go out to meet an uncertain and, in part, a hazardous future. This is the situation of all action, including all moral action. For action is an adjustment *before the event*. Therefore, if we could judge a moral action only *after* the event, we should have to judge, not it, but something that came out of it. Our moral standards must apply to future-regarding actions with express reference to the necessary futurity of their intention. Accordingly the standard of actual results cannot be the sole, and is not likely to be the most important, standard of moral action.

Thus it is customary to say that the "best" in the sense intended in Bradley's principle is "the best that can be foreseen and intended," or the best "according to our lights"—that is to say, what is probably or most likely to be best. The most promising action, no doubt, may turn out disastrously; but at the time of action it may really have been the most promising, and therefore the course that, according to our lights, we were justified in pursuing. This is a commonplace in the theory of probability, and there are even certain theories of probability according to which the case is stronger than I have suggested it to be. On this view of probability, to hold that a certain course of action is likely, although not certain, to be good is just to hold that the action is good in most cases, although in a smaller proportion of cases it is not good. Our trouble, according to this theory, is simply that we do not know whether the particular case belongs to the fortunate majority or to the unfortunate minority. I am not relying upon this theory of probability, however—it is

called the class-frequency theory—because it seems to me to be plainly inapplicable to future probabilities. If the class-frequency view were true, we should know in advance that the ratio between fortunate and unfortunate actions of a given class would continue to be the same ratio in the future as it was in the past; and although we may frequently have goodish grounds for suspecting something of the sort (and still more frequently have no good reason for doubting it), it seems preposterous to maintain that we ever, in strictness, *know* anything of the kind.

Granting, however, that the rule is that we should do what is *probably* best in our circumstances, it may still be asked what this rule implies.

One thing that might be meant is that moral action should be directed towards what is probably best according to the best information in humanity's possession at the time of the action; and it is obvious that, if this were meant, the rule, in a great many instances at least, would be utterly impracticable. For what individual human being is possessed of the best of humanity's probable forecasts concerning all contingencies, and how, when prompt action is called for, could such an individual human being be expected to obtain this information? Again, morality intimately concerns the common man; and how can the common man (in general) be expected to possess the information?

Hence we are frequently informed either (1) that morality is concerned not with *all* probabilities, but only with the common-sense probabilities that everyone, not an idiot or a moron, must be expected to know, or (2) that everyone should do, not what *is* probably best, but what *seems to him* probably best.

Neither of these views seems satisfactory. The first, we may agree, is reasonably congruent with the commoner lists of moral commandments. Everyone may be supposed to know that it is usually best not to steal, assassinate, libel, or slander. It seems a sufficient objection, however, that the problem of "making the best of it" is in no way restricted to such commandments and common-sense probabilities. The principle draws upon all the skill that anyone may have in the art of living, all assistance of friends, all frustration of knaves. In a thousand ways each of us, if he would make the best of his circumstances, must go beyond the common-sense rules. They are nothing like a complete guide to wise living.

On the other hand, how can we say that each man *should* do what *seems* probably best in his own eyes? If this were the whole truth, any opinion that anyone chose to form concerning probabilities, however perfunctory, visionary, or muddle-headed, would justify him in acting accordingly. And that, surely, is absurd. Even if, in the end, the moral man has to do the best he can according to his

lights, it is at least assumed that he should also do his best to make his lights burn as clearly as possible.

In that case the rule would be that each should do what he believes to be probably best, provided that he has taken all reasonable pains to think out the relevant comparative probabilities. And this rule also would have to be interpreted with discretion. For young men have to act, and old men have sometimes to act in a hurry. Neither of them, therefore, may have had reasonable scope for thinking out the probabilities at all deeply. But more importantly the problem of the fanatic and of the conscientious objector would still remain. In other words, there would still be people who had given their minds in all seriousness to a certain problem of conduct and, in the end, differed crucially from their fellows, some of whom had also given *their* minds to it. In that case we commonly hold that the persons we call wrong-headed but honest fanatics are to be admired for doing what seems to them best, even if we are quite certain they are wrong. We admire them because we know that it is always hard to stick to a principle in the face of obloquy and derision, and because we believe such tenacity in an unpopular course to be of far greater moral worth (usually) than any easy swimming with the tide. It does not follow, however, that because we admire these people in certain important ways we therefore commend the whole of their action, or admit that they are right. On the contrary, we restrain them if we are convinced that their action is *very* mischievous. And if any such restraining action is justified upon our part, the manifest consequence is that we do not believe that everyone *ought* to do what seems to him probably best according to the best of his lights.

VI

As we shall see, these questions concerning belief raise further issues. Before dealing with these further issues, however, it seems necessary to refer to certain specific questions concerning the *voluntaristic* implications of "doing one's best."

In general, when we say that a man should do the best he can, the word "can" refers to his volitions. It is his will or his voluntary actions that are meant.

Indeed, according to certain moralists, the point is so plain that it is declared to result from the very meaning of the words we employ. For what, it is asked, is an *action* except a voluntary deed? Or what is meant by "controlling a situation" except the voluntary control of it? Such language, we are told, manifestly refers to what a man may choose or consciously try to do when, to employ the vernacular, he is "up against it."

On the score of words, at least, these statements seem mistaken.

An action, surely, is what a man *does*. It is the expression of his entire relevant agency; and unless it can be maintained that everything we ever do is, simply and solely, what we do *voluntarily*, it is clear that there may be a very palpable difference between our deeds (which in large part may even be unintended, although we are the authors of them), and either our *voluntary* deeds, or such part of our deeds as is voluntarily determined. Similar statements hold of "control." We may very well control a situation, in whole or in part, without knowing that we do so.

The crux of the argument at this point, therefore, concerns the human will. What, then, is the "will"?

Here the answer, I think, is very far from being clear. The human "will," while it is a convenient *name*, does not seem to designate an *entirely unambiguous fact*.

One thing that may be meant is express volition. When we consciously choose to initiate some action that we mean to perform we are said to "will" that action. The negative side of this is express conscious inhibition, that is to say, the express determination not to do something that we might very well have done had we not intentionally checked the impulse to do it.

A second, and much wider, sense of the term "will" refers not to what is intentionally chosen or consciously resolved upon, but to what is "voluntary." The term "voluntary" may also, perhaps, be understood in several different (if allied) senses, but, upon the whole, we may say that any action is voluntary if we *could* do it, or refrain from doing it, *if* we gave our minds to the matter. In this sense many of our voluntary actions need not be definitively willed. For we may be lazy or heedless, and so do many things that we would never have done had we considered them seriously, although we might quite well have considered them seriously if we had given a thought to the matter.

A third sense of "will" sometimes employed is wider than either of the foregoing. The "will," in this sense, expresses our whole activity, the marshalling of all our conscious forces. No doubt, in general, when we employ the word in this sense we usually convey at least an oblique reference to the supremacy of the intentional or voluntary marshalling of our psychic powers. This is the normal interpretation of what we call a settled determination. A strong-willed man, in ordinary language, is a determined man who sticks to his chosen resolutions in spite of difficulties, just as, contrariwise, an invertebrate man is one who forgets or abandons his intentional resolutions. Even so, however, conscious choice is only intermittent in any such settled determination, and the settled disposition that is referred to really is, for the most part, *only* a disposition, that is to say, it is not steadily and persistently before the mind, although, on

occasion, it is consciously reverted to. And it may be doubted whether, in all cases, we *could* revert to it in any significant sense, and so, despite certain differences, include it in the class of voluntary but not expressly willed actions (*i.e.* in our second class, although, for the whole of it, not in the first). In the largest sense, however, it seems clear that our "will" may be interpreted as a settled tendency, trend, or disposition, largely unconscious (or more than half opaque to introspection)

We have to allow, then, that the "will" is a somewhat ambiguous faculty, and consequently that references to it, however clear they may seem, permit of much that involves investigation. What has now to be shown is that these ambiguities and alternative possibilities have a substantial bearing upon "doing one's best."

Let us, then, consider the question in some of its more general and better-known aspects with special reference to the moral sphere.

The doctrine that "ought implies can" is beloved of all good Kantians, and is very relevant indeed to our present subject.

It is doubtful, in the first place, whether this principle can be said to be self-evident. At any rate, it has been denied in very influential quarters. *A debere ad posse*, Luther said, *non valet consequentia*. And most Christian theologians, indeed all of them who are not Pelagians, are compelled, at some point, to say the same thing The moral law, they somewhere concede (or, like Paul and Augustine and Luther, they joyfully declare), commands us to do what, of ourselves, we cannot do; and therefore divine grace must be given us. *Gabe*, not *Aufgabe*, is the beginning and the end, although it is not always the middle, of such ethical doctrines.

Here, no doubt, there is much to be said. The fundamental contrast is between what the "old" or "natural" man cannot do, and what the "new" or "spiritual" man is enabled to do, although not of his own natural power; and it may well be contended that the terms of the contrast are fantastic, or at least dogma-ridden. May not the "natural" man, so-called, be only a theological abstraction, or an historical legend in a redemption-myth? Again, why should ethics destroy itself upon the razor-edge of theology? For theological reasons it is necessary to deny that a man can lay hold on spirituality of his own initiative (for Pelagianism is a heresy), although, for fear of quietism, fatalism, and the like, it is also imprudent to lay exclusive emphasis upon the way in which divine grace elects and lays hold upon its passive recipients. Why not, in a free ethic, abolish all these perplexities and argue only about what a *man* can do, not about what a "natural" man can do, or an "unregenerate" man before acceptance of the New Covenant?

Here, whatever the correct answer may be, it seems evident that Kant's answer was not correct. For Kant's principle is, in effect,

that no one ought to do what the *rational part of him* cannot effect through its pure rational agency, or, in other words, what he cannot effect *by mere rational volition*. And the rational will is *not* the whole man. The self-evidence of the principle that "ought implies can," therefore (if indeed it is somehow self-evident), does not imply its self-evidence in the form in which Kant expressed it.

Kant's paradoxical conclusions are notorious. He inferred that only "practical" love, and not, as he quaintly said, "pathological" love (*i.e.* emotional tender affection), could be commanded, and therefore that the Scripture must have meant that we ought to be beneficent to our neighbour, and could not have meant that we ought to feel sympathy or affection for our neighbour. For, said he, our emotions cannot be commanded by express rational volition; and therefore there is no sense in saying that we ought to feel the pure and tender ones.

The same argument would apply to what Kant should, in consistency, have called "pathological" purity of heart, or to "pathological" chastity. For these conditions of the soul cannot be summoned by express resolution. All that is immediately and expressly volitional is the inhibition of certain actions; and Kant expressly repudiated any more indirect and more subtle sense in which we might be said to have semi-voluntary control even over these emotions and states of the soul. Accordingly, it does not require much penetration to see that Kant's principle, as he interprets it, is thoroughly unscriptural.

That, perhaps, is no objection. I am not saying that Kant's doctrine is wrong because it is utterly and flagrantly unscriptural. I am only saying that, on the merits of this question, there is surely a great deal to be said for the Scriptural ethic (according to which many of the finer virtues are in large measure non-voluntary), and a great deal to be said against the forensic, Kantian view according to which nothing non-voluntary legitimately pertains to strict ethics at all. Are we bound to say that what the Scripture enjoins is nonsensical unless it is a condition of soul that we can attain by summary volition? To me at least it seems plain that the Scripture may be right, and that Kant is very likely to be wrong, in this important particular; and I mentioned the subject of free-will at the beginning of this paper with a certain proleptic intention.

In short, what a man does and becomes is not the same thing as what he does and becomes *by express volition*. It is also not the same thing as what he does or becomes through his "will" in either of the two other senses of the "will" that were discussed above (unless, indeed, the third sense is taken with so much latitude as to mean nothing at all significant).

Therefore, the best that a man can do need not coincide with the best he can do voluntarily or volitionally; and Bradley's principle

must be interpreted in a sense wider than the voluntary or volitional if it is true. If a man is likely to do better *without* trying than *by* trying, then he should not try. And ethics is impoverishing itself wrongfully if it imposes upon itself the very difficult restriction of confining its attention wholly to what can be shown to be purely a matter of "will."

VII

Any voluntary choice is determined by the agent's beliefs. Accordingly, if the maxim "ought implies can" is interpreted voluntaristically, it must be taken to imply that no one ought to do what he believes he cannot do. And this proposition is not at all obvious. It is true, no doubt, that it is psychologically absurd for any agent to will, or deliberately to choose, to do what he believes to be flatly impossible in his own case. We do not, in this fashion, voluntarily undertake what we are convinced is impossible. But what if our beliefs are mistaken? Might it not then be our duty to do what in fact we can do although we believe we cannot, or to avoid doing what in fact we cannot do, although we falsely believe we can do it?

These same considerations apply to doing one's (voluntary) best; and although they have been discussed, in part, in Section V of the present article, there are very good reasons for a further examination of this question. Let me quote from Dickens once again: "Seeing only is believing," he said, "very often isn't that; and even Being the thing falls a long way short of believing it."[1]

In general, writers on ethics appear to assume that we always know what we are and what we can do, and no doubt it is a fair assumption that most grown-up people do, in a rough way, know what they can usually do in regard to common actions in the commoner affairs of life. It does not follow, however, that most people know what harm they can do in affairs of delicacy, or that they are anywhere near to being infallible judges of what *are* affairs of delicacy. This is especially true in the case of social relationships—the sphere, after all, of the greater part of morals. Anyone who perceives the supreme difficulty of what is called "tact," and the way in which all human relationships are liable to an infinity of misunderstandings, can readily see what is meant by the difficulty. In the religion of the Manichees gentleness was the supreme virtue. Does anyone know, in all or in most human relationships, how to be gentle without being soft? And if he does not know, how can he tell what harm he may do with the rough and incautious edge of his tongue, or by his deficiency in imaginative sympathy? The hardest thing we can say about people, very often, is that they meant well, that is to say, that their beliefs concerning what they were doing were amiable but misjudging.

[1] *Op. cit.*, vol. ii. p. 5.

Another mistake that is frequently made is to the effect that if we err in this particular, we err, principally or always, on the side of overestimating our own capacities. This, if it were true, would be serious enough. The hardness and over-confidence of youth is natural to that fortunate condition; and we are all young in some respects until we are dead. For all of us the undertaking of a prolonged course of action may seem easy in the beginning, but who among us can gauge his tenacity in advance? Indeed, it may be argued with some plausibility that a certain degree of over-confidence is a necessity of the business of living. It is part of life's illusion that we nearly always expect better luck next time. Yet to say these things is in itself to admit that there are notable differences between our genuine capacities and our beliefs concerning our capacities.

As I have indicated, however, it is a mistake to suppose that any source of error which exists in this affair is one-sided. Diffidence and a sincere underestimate of our own capacities are perhaps not less frequent than over-confidence. They are certainly common enough. A lack of ambition, it is true, may sometimes be due to a preference—very often a wise preference even when it is juvenile—for a quiet life. But it may also be due to a definite underrating of our own capacities, or to a mistaken belief that other people can do better than we. It may seem a quaint piece of ethics to complain of a lack of push owing to an honest mistake concerning the amount of pushfulness that is in us; but the point is certainly relevant to the problem of making the best, or of making the most, of our circumstances. The ethics of vocation conflict with the ethics of humility; but the appearance of this conflict is no new thing.

Moreover, it seems very doubtful whether most of us are able, by taking thought, to form a correct voluntary estimate of our own capacities. To do so, we should have to be self-critical and yet not too self-critical; and the mean between these is not easy to find. Sometimes it takes a war, or the profound change of religious conversion, to show us what stuff we are made of; and it may always be argued that these profoundly disturbing events have changed us radically, with the consequence that, after them, we are new creatures made of a different stuff from our former selves.

VIII

The purpose of the present article has been to explore the meaning—or, rather, to be more accurate as well as more modest, to explore some of the salient implications—of the general injunction to do one's best in one's circumstances. As we have seen, it is a disputable matter whether this principle is, as Bradley suggested, the supreme principle of moral duty; and the present discussion (I

hope) has been free from any attempt to settle that major and perennial problem in moral theory. On the other hand, there can be no doubt whatsoever that the principle itself is very important for what we call prudence, good sense, wise living, and sane endeavour.

Accordingly, the discovery, if it be a discovery, and not, rather, a truism, that any concise formula like Bradley's may be developed along different lines, and is not entirely free from ambiguity, does not in any way detract from the importance of the principle, and should not be supposed to do so. Difficulties and even perplexities are bound to arise in any general statement which attempts to deal, with some precision, with an intricate subject. The important thing is to be able to face such difficulties with open eyes. The stupid course is to slur them over.

There appears to be a prevalent opinion that ethics, or at any rate the foundations of that subject, cannot really be very intricate, or require any great subtlety in their theory. In view of the complexity of human relationships, this prevalent opinion seems very odd indeed. Nevertheless, if the opinion be correct, and ethics is really a simple subject, we ought of course to rejoice. In that case, since the implications of doing one's best cannot be simple, it follows that the principle of doing one's best is only partially included in ethics if it is included at all. Such a view would work havoc with most of the traditional discussions of prudence, benevolence, and many other virtues. I am not suggesting that this consequence is, in itself, difficult to accept; but I am also not asserting that it should be accepted.

RIGHT AND GOOD:

ACTION *SUB RATIONE BONI*

PROFESSOR W. G. DE BURGH

I

"ALL men desire the good." This doctrine, which lay at the root of the ethics and also of a great part of the metaphysics of Greek and mediæval thinkers, is either a truism or a paradox, according to the interpretation we place upon it. Its meaning is far from obvious; it veils a multitude of implications and has given rise to a swarm of misconceptions. It has been assumed that all desire is *sub ratione boni*; nay more, the good has been defined as the object of universal desire, as "that at which all things aim." The view that desire is conditioned by prior apprehension of the good has provoked the rejoinder that desires precede consciousness of their end, that cognition is the result of, or at least concomitant with, the conative process which reveals it. Again, it may be asked whether the good desired is necessarily my own good, so that its attainment may be construed as self-realization; and, if so, whether it is private to myself or a common good which can be shared with others. Is heere one absolute Good, knowable by man, to which all other goods are relative? Is it possible to pass beyond what we opine and believe to be good, so as to know and desire what is "really" good?

Some at least of these problems must be touched on here.

(i) To the point first mentioned we have a clear answer. It has been the main object of these papers to show that action *sub ratione boni* is not the sole type of rational action, that reason directs man to will the right as well as the good, and that right and good are distinct notions. The proposition "All men desire the good" cannot be converted *simplicites* to mean that the good is the object of all desire. In moral action, we desire and will the right for its own sake; and, if we call such action "good," it is from the standpoint not of the agent but of the spectator. Both moral action and action *sub ratione boni* have practical value, but the values are specifically distinct.[1]

[1] A simple and definite term is needed to distinguish the theory of action *sub ratione boni* from Ethics, the theory of moral action. *Aretaics*, which is used by John Grote for the science of virtue as distinct from duty, is too narrow for our purpose; virtuous action being only one form of action *sub ratione boni*. Unless its meaning be unnaturally stretched, it excludes the pursuit of truth and beauty. *Eudæmonics* is the best term I can think of,

That the Greeks and those who followed them failed to grasp the distinction was due to their one-sided, though praiseworthy, exaggeration of the claims of the theoretic life They could not conceive an act as rational, unless a reason could be given for it other than the act itself. Such a reason could only be the end or good for the sake of which the act was done. Hence they were unable to give an adequate explanation of the admitted fact of moral evil. Vice was necessarily interpreted as ignorance, as defect in theoretical apprehension of good. Since all desire was of good, it was impossible for a man voluntarily, *i e.* with his eyes open to the light, to choose the bad. Now of action *sub ratione boni* this is manifestly true. Choice of evil is choice of a really lesser good, which through lack of insight appears the greater, in preference to a really greater good. No one wills the bad knowing it to be bad. The bad indeed is non-existent, being mere privation of good; and therefore it cannot, as such, be cognized or willed. But men do habitually will the *wrong*, knowing it to be wrong. Immorality is not ignorance but rebellion against the moral law. Its source lies not in lack of knowledge, but in lack of self-control, in the overmastering of right desire by evil passion The blinding influence of passion may obscure the vision of the good, but the voice of duty sounds above the tumult, and, when we disobey its dictate, we know that what we do is wrong. Indeed, the power of evil in the soul is even more directly practical than the concurrent desire to do the right. "I know not how it is," wrote St. Augustine, "but an object of desire becomes more seductive when it is forbidden."[1] St. Paul's record of his own experience is here decisive. "The good that I would, I do not; the evil that I would not, that I do." The Epistle to the Romans is conclusive refutation of the theory which reduces moral evil to mere privation and denies the existence of any desire other than the desire of good.[2]

so long as *εὐδαιμονία* is freed from association either with *ἡδονή* (pleasure) or with (felicity) self-realization as the ultimate Good The difficulty arises from the fact that the distinction between the two types of action was never clearly grasped before Kant.

[1] See the discussion on his youthful robbing of the pear-tree, *Conf* ii 4 ff. The sin here was sheer rebellion; there was no advantage desired or gained in the act Hence this seemingly trivial incident becomes significant for Augustine of the essential nature of sin as sin, and accordingly receives lengthy treatment in the *Confessions*

[2] *Rom.* vii 19 The "good" here is the law of righteousness, rebellion against which is provoked by the opposing (positive) "law of sin" The context shows that St. Paul is thinking of something very different from action *sub ratione boni* or from evil as defect of good On the religious (as distinct from the moral) plane, the conflict is overcome and evil loses its positive reality; see *Rom* viii, esp. 31 ff. But such a solution lies outside the scope of ethics. Reference will be made to it in the concluding article.

(ii) Confining attention to action *sub ratione boni*, we ask next whether cognition of the end necessarily, as the Greeks supposed, precedes the desire. The scholastic philosophers, and notably St. Thomas Aquinas, discussed the psychology of this position with rare subtlety of analysis. The will, they held, selects freely among practical judgments formed and reflected upon by the intellect, judgments as to the relative goodness or badness of alternative courses of action. This doctrine, that practical judgments of the intellect precede volitional choice, has been directly opposed by Croce, who insists that, so far from being antecedent, they are always consequent upon volition. I first choose and then pronounce the object I have chosen to be good.[1] The question at issue as to which comes first, the cognition chick or the conative egg, can be answered by a discrimination. It is obvious that in their origin desires precede the consciousness of the ends in which they find satisfaction. The baby's first hunger is prior to the baby's first meal. As Professor Alexander has argued, it is the conative process which discloses to cognition the nature of the object it blindly seeks. But on the plane of rational conduct, with which alone we are here concerned, it is surely otherwise. Here the chick precedes and conditions the egg. Two qualifications are however necessary. Apprehension of the desired good may vary almost indefinitely in clearness and precision, from the relatively determinate forecast of a tour on the Continent or a measure to be introduced in Parliament to the relatively schematic and indeterminate aspiration for the promotion of social welfare or scientific research or the Kingdom of God. Indeed, as Croce has pointed out, indetermination inevitably haunts our consciousness of the future; action is always, though in varying measure, in the dark. Secondly, while in studying rational action it is the moment of clear insight which naturally arrests attention, there may be implicit in the desire more than the desiring subject has explicitly before the mind. Men can desire better than they know. Of this the great mediæval thinkers were well aware. They held—and we shall return to their view presently—that desire for the absolute Good is implicit in man's nature, conditioning, dimly as he may be conscious of it, every step in his pursuit of relative and finite goods.

(iii) The Good cannot be *defined* in terms of desire as "that at which all things aim." Even if it should prove that the absolute Good were the goal of all desire for all creation "travailing together in pain" towards it "until now," this fact, for all its significance, could not be what constitutes its goodness.[2] It would be at most a

[1] Croce: *Philosophy of the Practical* (E.T.), Part I. Sect. I. c. 3; cf. also Alexander: *Space, Time, and Deity*, vol. ii. pp. 118 ff. 31 ff.

[2] On the whole question of the definition of good as "object of desire or interest" and the dependence of good on "desire," see Ross: *The Right and the Good*, chap. iv, pp. 80 ff.

property, not the essence, of the good. On the more modest level of thought befitting the student of ethics, we cannot say that to be desired or to satisfy desire entitles a thing to be called good. There are bad desires, and, if they are satisfied, the fact of their satisfaction makes bad worse [1] Can we say, then, that good means not simply what is desired or what satisfies, but what is ideally desirable, the end in which all desires find harmonious satisfaction? Is not this palpably to argue in a circle? What is ideally desirable means what it is good to desire, and the desires thus harmoniously satisfied are just the desires which are good.[2] Evil desires are excluded *ex hypothesi*, as is also the moral desire, the desire to do what is *right*, which, as we have shown, is irreducible to desire of good. Nor can the goodness of that which satisfies lie in the mere fact of satisfaction. If it did, the good would be private to its possessor, and would lose all claim to objectivity, *i e.* it would not be good at all. This ambiguity between the desire for an objective good and the desire for the possession of it is admirably elucidated by Descartes in a letter to the Princess Elizabeth: "*Il y a de la différence,*" he writes, "*entre la béatitude, le souverain bien, et la dernière fin ou le but auquel doivent tendre nos actions: car la béatitude n'est pas le souverain bien; mais elle le présuppose, et elle est le contentement ou la satisfaction d'esprit qui vient de ce qu'on la possède. Mais, par la fin de nos actions, on peut entendre l'un et l'autre; car le souverain bien est sans doute la chose que nous nous devons proposer pour but en toutes nos actions, et le contentement d'esprit qui en revient, étant l'attrait qui fait que nous le recherchons, est aussi en bon droit nommé notre fin.*"[3] In the possession of the good desire is quieted in enjoyment, *praxis* in *theôria*; but the fruition lies in the vision of a goodness which is independent of its relation to the enjoying subject. The good is not good because it satisfies; it satisfies because it is the good.

(iv) We are brought here to the problem of the objectivity of the good. Good, like right, is a predicate expressive of a practical ideal or standard of conduct. A thing is judged good by an act of reason, and the judgment claims universal validity. Hence the idea of a good which is merely private to the individual desiring it is, for all

[1] If it be objected that the bad desire is desire for a lesser *good*, it remains true that the fact of the illusion by which the lesser good appears the greater is itself evil.

[2] Not "what *ought* to be desired," for this would make goodness dependent on rightness.

[3] Letter of August 18, 1645, Adam and Tannery, iv. 275 (quoted by Gilson in his *Commentaire* on Descartes' *Discourse*, p 255). Cf. Aquinas, *Sum Th* I^a–II^{ae}, *2. 7. ad Resp*, "beatitudo est aliquid animæ; sed id in quo consistit beatitudo, est aliquid extra animam." Of course Descartes accepts the traditional doctrine that all action is *sub ratione boni* (see letter to Mersenne, A and T. I 366).

its frequency in popular and even in philosophical discourse, a contradiction in terms.[1] It is with goodness as with truth. We can speak with meaning of private pleasure, private interest, private advantage, as of private tastes or personal opinions; but never of private truth or private good. Hence desire of good does not imply of necessity, as Professor Prichard and even Bradley take it to imply, desire of good for self.[2] Action *sub ratione boni* cannot therefore be brought under the rubric of self-realization. That the self is in effect realized, in varying measure, in the life directed towards the good is no proof that this realization enters into the end desired. The good I strive for may be one in which I can have no share, as when I aim at the welfare of my family or my country after, or even through, my death. Nor need the desire of ultimate good imply participation by the self in its attainment. The final goal may even be conceived as precluding any such determinate experience, as the sheer negation of consciousness and individuality. Western thought, it is true, finds such a conception theoretically paradoxical and practically repellent. For Christian mystics, as well as for monistic philosophers like Spinoza, the ideal is a state of positive beatitude, in which individuality, far from being annulled, attains its full perfection in union with God. But the East has travelled on a different path; and the mind of Indian thinkers has ever been haunted by the conviction that individuality, and even otherness, bears the mark of evil, and that its survival, however it be transfigured, would cast an intolerable blemish on the state of ideal consummation. Certain Buddhist schools, for example, have interpreted *nirvāna* as not merely cessation of individual existence, but as total nullity of being (*śūnyatā*).[3] A similar, if less extreme, view of the state of emancipation (*moksa*) is found among the Vedantist teachers. In face of the fact that such conceptions have been cherished by many of the profoundest Eastern thinkers, we cannot, on the score of our inability to appreciate their value, rule them out of account in our inquiry into the good. Another corollary which follows from the objectivity of the standard of goodness is that desire for pleasure

[1] See Moore: *Principia Ethica*, § 59.

[2] For self, that is to say, as well as for others. Of course every desire is the desire *of* the individual who desires, but this is a trivial statement. The question is what the desire is *for*.

[3] Cf. Questions of King Milinda, iii. 5. 10: "The Blessed One passed away by that kind of passing away in which no root remains for the formation of another individual. The Blessed One has come to an end, and it cannot be pointed out of him that he is here or there." For the Mādhyamaka school of Buddhists, *nirvāna* is neither a positive state of being nor a negative state of non-being; even the knowledge that phenomena have ceased to appear is absent; bondage, liberation, and Buddha himself are phenomenal. Parallels might also be found in Persian Sufism.

cannot be reckoned as desire for good. Pleasure is private to the subject who experiences it Desire for the general pleasure, be it noted, is no more desire for pleasure than the desire that our country should possess riches is covetousness or the desire of wealth.

(v) The judgment "this is good" moves to action, when the apprehended good is within our power to attain. But can its claim to objectivity be sustained? How can we be assured that what we judge to be good is real, and not merely apparent, good? The same problem confronts us as in the case of "right." Our judgments are manifestly fallible; are we not doomed, in our quest for what is really good, to be for ever deluded by the semblance? The answer will be the same as in the case of "right"; the form of the good can be realized only in and through particular goods, each and all of which fall short of the perfection which is throughout the goal of our endeavour. These two things at least are clear: (*a*) that the ideal form is no subjective fantasy; and (*b*) that only by holding it steadily before our eyes as a standard is it possible to bring the relative and finite goods into being by our will. Just as particular concrete duties are willed as expressions of duty universal, so particular concrete goods are willed as expressions of universal good. This implication of volition *sub ratione boni* has been set forth, in reasoning unsurpassed for clarity and cogency, in the writings of St. Thomas Aquinas. In this sense, all that a man desires—when he desires, be it understood, *sub ratione boni*—he desires on account of the ultimate end. There is in man, as a rational being, a natural desire which can only find satisfaction in an infinite and perfect good. Here, again, the impulse of the intellect towards truth affords a parallel. The human mind is driven onwards, by a natural craving, from finite truth to finite truth; nor can it rest, so long as the remotest fragment of the universe remains veiled to its comprehension. Though each advancing step in the path of knowledge brings with it a more poignant realization of what lies beyond, though "leagues beyond those leagues, there is more sea," the advance has been conditioned by the unquenchable faith of reason in a truth that is absolute and complete. So, too, the artist's desire to create beauty is inspired by the vision, clouded and partial, of beauty absolute, a beauty that leaves nothing to be desired of it. In these specific forms of the life *sub ratione boni*, and in others—in the love that seeks its own consummation (*amare amabam*) or in the desire of religion for union with God in love and worship—the apparent goods cease to be merely apparent and become real, when informed by the desire of reason for absolute good.

The truth of this implication will be evident, if we follow the method pursued in our discussion of the moral consciousness and indicate the logical stages in the development of the consciousness of good.

II

In action *sub ratione boni*, the good is theoretically apprehended prior to the action, for which it provides the efficient motive; and the action is willed for the sake of fruition or rest in the good, as its final cause. Thus the distinction between speculative and practical activities is irrelevant for our present purpose; both alike fall under the head of action for the good. The pursuit of knowledge calls volition into play as much as does the pursuit of moral goodness or of virtue; truth, beauty, and goodness of character are all, in their several ways, judged good, and as such are capable of stimulating and satisfying desire. We shall, therefore, refer to man's intellectual or æsthetic activities among our illustrations of the life *sub ratione boni*.

(i) In our survey of moral action, we noted that the situation of fact habitually provokes to efforts after adjustment, unattended by any consciousness of moral obligation. Such actions are called right or wrong, in a wider and non-moral usage of those terms, with reference to a standard of mere practical efficiency. Similarly, on the line of action *sub ratione boni*, a form of action can be distinguished which is logically prior to the consciousness of good. Man's environment presents objects which tally with his natural impulses by holding out to them the promise of satisfaction. The dominant feature in these experiences is not effort under external compulsion, but spontaneity of desire. "The world," in Ancient Pistol's phrase, "is mine oyster"; it clamours to be explored, revealing itself as alluring and delightful, not as a stern taskmaster, but as a kindly friend. The interest aroused is theoretical as well as practical; curiosity is excited, and a child finds pleasure in following the movements of a cat or in watching "the wheels go round." The current craving to see the pictures is but a crude instance of the speculative desire, which, on a higher level, bears fruit in scientific or historical research. This difference of levels is all-important. Plato gave classical expression to it when, in the fifth book of the *Republic*,[1] he discriminated, among lovers of *theôria* or contemplation, between those whose interest was exclusively limited to the spectacle of sensible events—the lovers of sights and sounds—and the philosopher, who rises from *theôria* of the ever-changing sensuous show to that of eternal and intelligible truth. He, and he alone, is a lover of the *good*. But the levels are not discontinuous; the interest of reason springs, as Plato also pointed out, from that of sense.[2] So, though the pleasant is not, quâ pleasant, good; yet what gives subjective satisfaction has potentiality of objectivity and goodness, and may

[1] *Rep.*, 475D—480A. [2] *Rep.*, 523A—525E.

therefore be regarded as on the line towards good. The moment of transition is indicated by the use of reason as "the slave of the passions," as in Rational Hedonism, where pleasures are measured one against the other, and the means to their attainment are determined by rational calculation Another example of reasoned egoism is the theory of life put forward by Callicles in Plato's *Gorgias*, a a theory common to every age of developed civilization, which advocates self-assertion and the enslavement of society to the will of the strong When, however, as in Plato's picture of the timocratic state,[1] the power aimed at is the public power of the community, national aggrandizement and glory, as also when the object of desire is the general happiness, the passage has already been effected to the recognition of an objective, though finite, good.[2]

(ii) As duty can only be willed by willing particular duties, so good can only be desired as embodied in particular goods. And as no particular duty or series of particular duties can fulfil the requirements of duty, so no particular good or series of goods can fulfil the requirements of goodness No finite good, taken in its finitude, can justify the claim to be *the* good. Just in so far as they make this claim and are desired as absolute ends, they are bound in the course of life to reveal their inadequacy alike to theoretical analysis and to practical experience. The concept of good, like that of right, transcends finite expression. A distinction must here be drawn, among such specific goods, between (*a*) those which are not merely incomplete as failing to cover the whole field of goodness, but are further bound down by limitation to a finite set of spatio-temporal happenings; and (*b*) those which, though free from this last-mentioned restriction, yet stand side by side with other forms of goodness. Examples of the former type are the economic prosperity or power of a given social group, be it family or tribe or nation, or even humanity at large.[3] The ideal of Utilitarianism, or, as it is better termed, Universalistic Hedonism, falls obviously under this head. Such goods as these are easily proved to be defective in the course of experience; they are indefinitely variable and transitory, and what satisfies the needs of one race or generation fails to satisfy the next. Goods of the second type have a stronger title to be regarded as ultimate; for, though they are still bounded by one another, they are each in

[1] *Rep*., 547B—548C.

[2] There is no suggestion here that self-assertion is temporally prior to social co-operation The point is that conscious reflection, on the part of an intrinsically social being, begins with self-assertive revolt against social restraints This truth is implicit in the Jahvist s version of the story of the Fall in *Genesis* iii, as Hegel realized (*Logic*, E. T Wallace, pp 54–57)

[3] On the concept of "humanity," see Bradley—*Ethical Studies*, pp 205, 231–2, 343–45 Bradley distinguishes its relevance forreligion from itsrelevance (or irrelevance) for morality.

suo genere infinite.[1] Such are knowledge, beauty, moral perfection, love of our fellows, and, if we include religious good, God and the reciprocal love of God and man.[2] Each of these goods is infinite, in that it provokes and responds to a desire for a specific perfection, which no finite achievement can fully satisfy. Yet each is a distinct form of goodness, exclusive of the rest. Each, again, can be desired under limitations which, when thought out, are found to contradict the nature of the good in question. Consider the desire of the intellect for truth. The fact of its implicit infinitude, in that it of necessity persists unsatisfied with any attainment short of the possession of the final truth of all that is, was selected by Aquinas as the foundation-stone of his argument to the need of revelation and immortality as conditions of the possibility of its satisfaction. Yet the *summum bonum* cannot be contracted within the bounds even of final truth. Such contraction would prove defective to the intellect itself. It seems to be a paradox of the intellect, that it cannot rest satisfied in what satisfies the intellect alone. It demands that beauty, moral perfection, and love should be synthesized with truth in the ideal of perfect goodness. Of the possibility of such a synthesis we shall have something to say in the concluding paper of this series. Our immediate point is that truth is normally pursued in actual human experience without the explicit awareness of its infinitude. The specialist, intent on a particular inquiry, will often affirm principles, say, of materialism or physical determinism, which have a restricted or purely methodological application, as though they were laws holding of all experience. So, again, the search for truth may be subordinated to finite practical ends such as the promotion of an industry or the interests of national defence. The like is true of the artist, when he imposes rigid canons, e.g. of dramatic unity, on the expression of the ideal of beauty, which evidence their incompatibility with the ideal by provoking other artists to overthrow them. The love of our fellows, seeking particular means of expression for a good that in its universality defies restriction to any finite states of character or groups of persons, suffers unnatural contraction when devotion is confined to a single individual or family or class (*égoisme à deux, à trois*, etc., and the idealization of class-consciousness). Finally, in religious history, polytheism and monolatry prevail long before the recognition of God's infinity, and still persist in men's religious

[1] On the use of the term "infinite" I follow Bradley—*Ethical Studies*, pp. 74–78. I am well aware that mathematicians refuse to admit the term in any sense save that in which it is defined in mathematics But I can appeal to a noble array of philosophers in declining to submit to this restriction.

[2] On religious experience, see the next paper. I hold that the religious life can be distinguished alike from the moral life and from the life *sub ratione boni*, though it presents close affinities with the latter.

thought and worship beneath a veil of avowed monotheism. It is hard for the human spirit, in its secular striving for the good, to shake off the trammels of the finite

(iii) That finite goods fail to satisfy is a truism, voiced all along the ages not only by saints and mystics but by the man in the street. "*Il n'y pas d'âme tant soit peu noble,*" wrote Descartes in the Preface to his *Principles*, "*qui demeure si fort attachée aux objets des sens, qu'elle ne s'en détourne quelquefois pour souhaiter quelque autre plus grand bien, nonobstant qu'elle ignore souvent en quoi il consiste. Ceux que la fortune favorise le plus, qui ont abondance de santé, d'honneurs, de richesses, ne sont pas plus exempts de ce désir que les autres; au contraire, je me persuade que ce sont eux qui soupirent avec le plus d'ardeur après un autre bien, plus souverain que ceux qu'ils possèdent.*" A generation later Spinoza told, in his unfinished treatise on logical method, how early in life he had weighed the goods in which the generality of men seek happiness—pleasure, riches, honour—and had found them wanting; and how love of an object that is infinite and eternal (*amor erga rem infinitam et æternam*) alone could bring enduring and complete felicity.[1] "To find or to be able to find a thing here is to prove that it cannot be the good."[2] Parted in all else by a chasm, the mind and heart of East and West are here at one. "All that is clung to falls short," said the Buddha; and he declared, as the second "noble truth" of his doctrine, that the origin of suffering lay in "the craving thirst that causes the renewal of becomings, that is accompanied by sensuous delights, and seeks satisfaction, now here, now there." It fell to the philosophers to display the logic of this transition from the pursuit of finite goods to that of a good which is transcendent, by unfolding the implications both of the good as an objective reality and of the desire of the good inherent in man's rational nature. The former path was followed by Spinoza in his *Ethics*, the latter by Plato in the fifth book of the *Republic*.[3] He shows there, by analysis of the principle of desire or love, that the hall-mark of all love, irrespective of its specific type of object, is universality Whatever is desired with single-minded direction is desired in its entirety. In the case of all finite objects, such desire entails self-contradiction. One object alone can be loved whole-heartedly without breach of harmony, the essential Form of Good, the one all-inclusive Good from which fragmentary and finite goods draw their goodness by participation, and apart from which their value is appearance, not reality.

[1] *Tractatus de Intellectus Emendatione, ad init*

[2] Karl Barth, *The Word of God and the Word of Man* (E.T.). pp 137–8, cf. pp. 138–9.

[3] *Rep.*, 474C—475C.

III

Action for the good, like moral action, is thus seen to imply an absolute standard; in the one case an absolute Good, in the other an absolute Right. Whether the standard be an other-worldly reality, transcendent in relation to the world of spatio-temporal experience, as Plato and Plotinus held; or whether it be, in Kant's phrase, a "regulative idea" for our knowledge of the world we live in, the idea of that world in its totality as an immanent Absolute, it is not for Ethics to decide. The issue can only be determined, if at all, on the *terrain* of metaphysics or (and) of religion. But, on the borderline that parts ethics from these wider fields of inquiry, the problem arises in the form of an antinomy. We have noted this already in the case of the ideal of Right. In the case of Good, the absolute Good, which is the *prius* of all finite goods and the source of their relative worth, is nowhere realizable within human experience. In the light of the perfect standard, the kingdoms of the world and the glory of them suffer remorseless condemnation. But if the Good be merely an ideal, how can it be practical? To be practical, it must be both realizable and real. Men are not moved to action by desire of a perfection which is either unattainable or a fiction of the imagination. Consider, for example, the good under the form of truth. Not a step could have been taken on the path of knowledge, save for purely practical purposes, but for the unquenchable faith of the intellect in a truth that is wholly and completely true, and is knowable by the human mind. Yet the goal is palpably unattainable, by reason of the finitude alike of the actual knowing subject and of the actual objects known. The knower apprehends by discursive and inferential processes, which, though they are illuminated at every turn by intuition, preclude immediate intellectual vision of the truth[1]; and the world he strives to know, *including his own self, comes to him* as an unfinished and fragmentary series of particular occurrences, which defy reduction to a unitary and coherent system. So, in human affection, the ideal of perfect union with our kind is but imperfectly realizable through the love of a few by each, and of these few with varying grades of intensity. At best, individual divergencies and contrasts remain unsynthesized into a real identity of differents. We are thus both infinite and finite, potentially infinite and actually finite; finite but *too manifestly*, as limiting and limited by persons and things that are related to us externally and make us what we are by the external relationships; infinite, in that we are

[1] See Professor A. E. Taylor, *Knowing and Believing* (Presidential Address to Aristotelian Society, 1928), esp. pp. 19 ff.; and my article on *Logic and Faith* (*Journ. of Phil. Studies*, October 1926).

conscious of our infinitude and transcend it ideally in cognition and desire.[1] It is only through this consciousness on the side of the subject that we can conceive in idea, as the ultimate ground of rationality in the object, an Absolute which is either transcendent of the spatio-temporal world or that world itself as a self-explanatory system. How this ideal can be unrealized and yet real is a problem which Ethics asks and cannot answer. Its consideration raises metaphysical questions of almost insuperable difficulty, touching the reality of evil and the relation between fact and value, the actual and the ideal; questions that lie beyond the scope of these papers.[2] Enough has been said to show that the science of Ethics, even when taken in its widest extension to cover not only moral action but action directed to the good, is not self-contained or final, but, like all other departmental inquiries, gives rise to problems that require a systematic philosophy of experience for their solution.

Waiving this larger issue of the antinomy, there remain two or three matters on which something must be said before we close. We have to consider how, within the field of conduct, the two types or moral action and action for the good, which have been sharply distinguished in the abstract, intermingle with one another in the concrete life of man. Again—and here we touch the border-line between ethics and another enquiry—we must ask how far religious experience can be subsumed under one or other of the aforementioned types of action, and, if it be found to be distinct, how far these types of action enter into and modify religion. Reference must also be made to a problem which has been pressing on us throughout the whole preceding discussion, that of the plurality of values. Are the distinctions of Right and Good, and of the several forms of Good (truth, beauty, love, etc.), irreducible and ultimate? Reason surely rebels against such a severance. Where, if anywhere, are we to look for a principle of synthesis?

(*To be concluded.*)

NOTE.

This article was written before the appearance of Dr. Ross' book entitled *The Right and the Good* (Clarendon Press). I would refer the

[1] See Bradley, *Ethical Studies*, pp 74 ff

[2] The Good must be real, yet evil is a positive fact, and, over and above positive evils, defect of good is everywhere to be found in the world of finite experience For ethics the ideal value remains unrealized, an ideal over against fact. This severance of fact and value is overcome in different ways, both by religion and by metaphysics. But for moral experience, and also for action *sub ratione boni*, the severance presents an unsolved and insoluble antinomy See *Ethical Studies*, "Concluding Remarks," esp. pp 313, 322, 326

reader to his admirably lucid analysis of the various meanings of "good" in chap. iii of that work, and especially to his discussion and definition of what is "intrinsically good" as "that which is good apart from any of the results it produces" (p. 68). I agree with him (*a*) in holding goodness to be a "consequential quality" of the object which is good, and not a relation either between constituents of the object or between the object and the mind which apprehends it (chap. iv); (*b*) in holding that the objects qualified as intrinsically good are states of mind (chap. v). The metaphysical and religious problems of an Absolute Good and of God as good lie outside Dr. Ross' inquiry. The most serious difference between us is on the all-important question of the inclusion of motive in the content of duty; his exclusion of motive (pp. 4–6) carries with it far-reaching consequences, *e.g.* the distinction of "right" from "morally good" acts (p. 156), and the denial of intrinsic value to "right" acts (pp. 132–133). My own view on this question has been stated in an earlier article (No. 19, July 1930).

PHILOSOPHICAL SURVEY

PHILOSOPHY IN FRANCE

THERE are at least six works of the very first rank which no review of recent philosophy in France, or in Europe, should neglect to notice Such are the important lectures given at the Collège de France by Professor Edouard Le Roy, who occupies the chair vacated by Bergson on his retirement, and the three volumes of studies on Cournot and Renouvier by MM Milhaud and Hamelin, posthumously published To these I intend to devote separate articles in future numbers of the *Journal* And, apart from these, there is indeed no lack of careful and stimulating work

I

M JEAN WAHL has attracted much attention by his last book on *Distress of the Spirit in the Philosophy of Hegel*,[1] a study of the formation of Hegelianism from an unfamiliar angle M Wahl is persuaded that a purely 'intellectualist' exposition of Hegel is like the play of *Hamlet* with the Prince left out Hegel's philosophy, he says, "cannot be reduced to a few logical formulæ Or rather, these formulæ cover over something that is not of purely logical origin The *Dialectic, before being a method, is an experience by which Hegel passes from* one idea to another." And it is a specifically *religious* experience—"behind the philosopher we find the theologian, behind the rationalist the romantic" This experience, intensest in Hegel's early manhood, is the real origin of his philosophy But it is not, as M. Wahl's whole book attempts to show, the "origin" in the merely psychological sense—of that which directed Hegel's interest and efforts to the study of speculative metaphysics It is "the origin" in a profounder sense, one in which the metaphysical conclusions Hegel reached in maturity must themselves be turned back upon, used to interpret and evaluate, the very experience which is at once their historical source and the essential material they have to exhibit as harmonious and rational Concerning what is the proper business of philosophy, M Wahl would presumably fall into line with writers like Professor A E. Taylor, when they say that it is "to express a whole personality." Now the experience, the interpretation of it, and the "whole personality" in the present case, though those of the historical Hegel, are yet not of particular biographical import alone The experience *vécue* is, of course, particular and biographical, but the content of that experience, what is so richly significant in it, reaches beyond the particular limitations of occasion, state, and person The outcome of Hegel s philosophy was *"to remove, in the non-temporal whole in which rationality* and reality are finally united, whatever is discordant and tragic in the world of concrete experience." Now the "experience" in question is essentially one of contradictions Hegel is incessantly confronted with antinomies and antitheses, and arrives by a struggle, which is "an echo of the universal labour of the negative," at a synthesis of those contradictions In this "biographical" struggle of Hegel we have 'writ small,' the long history of human experience, the alternation of endeavour with despair. In this way Hegel raises to the

[1] J. WAHL: *Le Malheur de la Conscience dans la Philosophie de Hegel* Paris: Les Editions Rieder. 1929 Pp 268 40 fr.

level of an historical description of all human experience, next to the level of a metaphysical principle, the distress of separation and reflection on its antitheses, on the one hand, and the need for harmony and the idea of the Notion, on the other. "The conception which marks the introduction of apologetic theology into the history which itself becomes a logic, is that of spiritual distress." This "division within the soul itself" in its separation from God, an experience primarily Christian, has a cosmic significance Figuratively, it is described as "the Universe becoming aware of itself" Distress of spirit in man, repulsing the harmonizing efforts of reason, is symptomatic of disequilibrium or "distress" at the heart of Being itself

Hegelian philosophy is first and foremost a Meditation. This meditation, starting from the fact of spiritual suffering, facilitates by conscious effort a transcendence from all involved in that initial experience. But the internal contradiction, the "perpetual irony," of all thinking (*viz*., that every affirmation of spirit entails a contrary affirmation) serves to point the direction that thought should take "so as to fill up the blank that separates reason taken as reality from reason taken as spirit." The validity of a notion is to be established only *en s'approfondissant*, and it can *s'approfondir* only *en englobant son contraire*. The progressive movement of spirit is not then one of opposition or of incessant oscillation, but a movement of cyclical synthesis "enriched by all the intermediate stages from its starting-point." Without spiritual distress there is no movement or life, and even when surmounted, it cannot be denied or suppressed in some changeless reality. The reality for which Hegel is seeking is not the undifferentiated 'One' of antiquity; his philosophy is to be that of "a romantic classicism," or "a classical romanticism," for he is trying "to make arise out of the deepest distress of spirit its highest happiness," and this happiness is possible only in a movement which has eternally surmounted distress. *La conscience malheureuse*, "that simple negativity of spirit which becomes self-conscious," compels us to pursue a path that leads into deeper and deeper distress. Progressively wider become the "divisions" between self, the world and God, and these "separations" are objectively manifested throughout the whole history of human experience and thought—Stoicism, Judaism, Primitive Christianity, Mediæval Christianity, eighteenth-century Subjectivism, are milestones in that history. "Philosophy" is thus philosophy of the history of spiritual struggle, inspired by it, explanatory of it, liberating the human soul from it through the happiness born of it. M. Wahl is a skilful writer and able to throw into fine relief the literary richness of his theme. True, we do not find in his book the method or the cosmology of Hegel dissected, clarified, and meticulously reassembled with McTaggart's skill, but then it is not M. Wahl's purpose to do this. As an account of where the "accent" should properly fall in Hegelianism, we may feel M. Wahl unconvincing, but that he succeeds in presenting the most illuminating parallels between the development of the metaphysic or articulation of the Notion, on the one side, and the interpretation of "History" in Hegel's sense, on the other, is beyond question.

A metaphysical study of a very different cast is that of Dr. Régis Jolivet of Lyons, on the necessity of the conception of substance for metaphysics. His book[1] is historical and critical, but "historical" here does not indicate a mere meander through the writings of past metaphysicians Dr. Jolivet does not lose his reader in a morass of citations, but adroitly guides him straight to

[1] Régis Jolivet: *La Notion de Substance: Essai historique et critique sur le Développement des doctrines d'Aristote à nos jours*. Bibliothèque des Archives de Philosophie Paris: Beauchesne 1929 Pp. 335 50 fr.

the high places and strategical points. His fairness and sympathy with "empiricism" and with philosophies denying ontological status to "substance," enable him to state their implications in the fullest and strongest manner, which is, for him, precisely to show up their insufficiency and weakness. Limiting his review to those systems which brought new solutions to difficulties arising from the notion of substance, Dr Jolivet tries to show how substance is ineluctably presupposed in them all, and that the attempts of some of them to elude it account for the final impotence of empiricism, and the insurmountable objections to certain forms of idealism This thesis he tries to support, positively by Aristotle, St Thomas, Suarez, Descartes, and Leibniz, negatively, by Hume, Kant, and less directly by Lachelier and Hamelin The discussion of Cartesianism is pleasingly free from any Kantian 'twist,' and the first half is particularly good, though the criticism Dr. Jolivet uses in the second half 'to support his view that Descartes' doctrine of substance compromises the possibility of a thoroughgoing realist interpretation of it' seems to me untenable (It is startling, too, to find in so good a discussion the suggestion that by "clear and distinct conception" Descartes means "an *image* that is definite"!—p 140). The Cartesian *Cogito* and Bergson's *durée concrète* alike presuppose at the outset a realism which neither is in the end able to justify, because, according to M Jolivet, of empiricist prejudices A more thoroughgoing realist interpretation of substance is to be worked out by starting from Aristotle (his account in itself is inadequate, since it eventually leaves the material individual unintelligible), correcting him by St Thomas, and developing the revised version along Leibniz's lines. The author shows well how Thomas reinforces Aristotle's "realism" of substances by a realist theory about our knowledge of them Intelligible and sensible factors in the object of knowledge are distinguishable but not separate factors in the concrete thing—they are co-implicant factors in it Since the intelligible is immanent in the sensible, the sensible is already "rational"; and since the sensible is immanent in the intelligible, the intelligible concrete is sensible In his concluding chapter Dr. Jolivet maintains, endorsing Maine de Biran, that the divergences and errors of metaphysical systems result from their all having exceeded the limits warranted by primitive fact through either illegitimate abstraction or insufficient analysis Metaphysics must therefore return to primitive facts and ascertain their character These, Dr Jolivet decides, are two. the first, fully brought to light by Descartes, is the existence of a substantival self; the second, that phenomena and substances are unseparated in the concrete, and jointly constitute the 'existence' presented in awareness As interconnected, "obeying" definite laws, phenomena are objective, independent of minds, and hence already syntheses that are far more than "pure appearances " And substance, since it is intrinsic to its phenomenon, is not a "pure absolute," and therefore can be directly apprehended in sense-perception Dr. Jolivet has certainly produced a careful, thoughtful, and suggestive book, which, to say the least, contains the essentials of a sufficient answer to Phenomenalism

The *Société Belge de Philosophie* has recently made its *début* in print with the publication of two *Archives*, both of logical interest Professor DUPRÉEL investigates the notion of Necessity.[1] Philosophers who have tried to make clear or justify the traditional view that "necessary truths" are recognized as such "intuitively" have been able to elucidate it only in terms of the impos-

[1] E DUPRÉEL: *De la Nécessité* Archives de la Société de Philosophie Fascicule, 1 ,Bruxelles: Stevens 1928 Pp 40 5 fr.

sibility, or inconceivability or absurdity of its contradictory. Confronted with the contradictory, we cannot see how to avoid affirming the "necessary" proposition, and "it is the idea that *this latitude is refused us* that the word necessity expresses." He next seems to take this as implying that "the *foundation* of all necessity is an act of intuition," and infers that if "an absolute value" is to be accorded to necessity, "it must be founded in an operation *sui generis*." The situation in which a necessary proposition is seen to be necessary (*viz.*, in which we see that "the latitude" of asserting and accepting the contradictory "is refused us") really involves a brief argument (one passing from the proposition in question to its denial) in which we experience the impossibility of admitting the denial. This "petit raisonnement," by application of the principle of contradiction, closes with an intuition of the absurdity of the contradictory. It cannot, however, justify the view that necessity is "absolute," for the argument, by invoking the principle of contradiction, is circular. The first part of the paper concludes that there is not, as supposed in the classical types of rationalism, any "fixed point of departure" from necessary truths. The very fact that "necessary truths" appear to us *as* necessary is, Professor Dupréel thinks, a sign that they express not our knowledge, but our ignorance—a sign that "we do not know of which judgments the necessary truth is a synthesis, and under what conditions it is true." The remainder of the article is devoted to indicating the changes the author supposes his conclusion requires in our conceptions of the nature of thought and mind. Here he appears to follow the lead of M. Goblot, maintaining that thought is essentially "construction": *raisonner, c'est construire*, though what "justification" of necessity, if any, is proposed in the end is not very clear.

In the second of these *Archives*,[1] MM. BARZIN and ERRERA examine the recent attack of M. L. E. J. Brouwer, the Dutch mathematician, upon the validity of the principle of excluded middle. M. Brouwer regarding it uncertain, attempted to reconstruct the foundations of mathematics in such a way as to avoid assuming its validity. In this article the authors claim to have found "in the very foundations of his construction" a formal contradiction. Their argument, which contains replies to objectors, supporters of M. Brouwer, is too long and technical to reproduce here. It contains an interesting discussion of implication, and of the character of primary principles in formal logic.

Dr. PIERRE BRUNET's last book on the mathematician and physicist Maupertuis[2] deals with the same period, though not the same persons, as his former work, *The Dutch Physicists and the Experimental Method in France in the Eighteenth Century*, and that of his two forthcoming volumes, *The Introduction of Newton's Theories into France*. Of the present work, the second volume, dealing with Maupertuis's scientific work, is the more important, and the first half of it considerably more valuable than the second. It is surprising to find a whole "Deuxième Partie" devoted to "Maupertuis the Philosopher," and Dr. Brunet's three long chapters on his epistemology, his discussions about "matter and thought," and "natural theology and the moral problem," show that one's previous ignorance of Maupertuis's performances in these directions argues no grave defect in one. Dr. Brunet might well have compressed this material into a single chapter (were he, for completeness' sake,

[1] M. BARZIN and A. ERRERA: *Sur le Principe du tiers exclu*. Archives de la Société Belge de Philosophie. Fascicule 2. Bruxelles: Stevens. 1929. Pp. 26. 3 fr.

[2] P. BRUNET: *Maupertuis, Étude Biographique: Maupertuis, l'Œuvre et sa place dans la Pensée scientifique et philosophique du XVIII^e siècle*. Paris: Blanchard. 1929. Vol. I, pp. 203; Vol. II, pp. 457. 75 fr. the two vols.

intent on dealing with it at all), for Maupertuis's philosophical ideas have little intrinsic merit, and seem to have exercised no influence, except possibly on the *philosophes du salon* of his own day The six chapters in the first part on *Maupertuis's contribution to* pure mathematics, astronomy, and mechanics are, however, of a different order They are most informative and clear and give the work its real value, which appears considerable

II

Two-thirds of Professor BRÉHIER's excellent *History of Philosophy* is now completed This year the third fascicule ("The Middle Ages and Renaissance") of Volume I, covering from the fifth to the sixteenth century, and the first fascicule ("The Seventeenth Century") of Volume II, have appeared. These volumes promise and deserve to become the standard general history of philosophy *in the French Universities They tell their story simply and lucidly,* guide the reader to essentials, and enter into enough detail to give a clear impression of the greater figures without losing the sense of continuity and development There is appended at the end of every chapter a most full bibliography of the relevant *opera magna*, principal monographs, commentaries, and authoritative articles The third fascicule,[1] beginning with an account of orthodoxy and heresies in the fourth and fifth centuries, contains a good discussion of the relation between Reason and Faith The third chapter brings us into the *pensée ardente et variée, tumultueuse et confuse* of the twelfth century, in which the author distinguishes four movements which find expression through the theologians (who work towards the unification of the Christian tradition), the Platonist school of Chartres (the "Humanists"), the mystics, and the naturalist-pantheistic thinkers. The next chapter surveys Oriental philosophy (more particularly the Arabians, Avicenna and Averroës; and Maïmonides), and so prepares the way for the great thirteenth century (ch v), in which the unification of the Christian tradition is now accomplished. It is, however, a unity that is "willed for social and political reasons, rather than intellectual ones" Dr. Bréhier's two score pages on St Thomas is a *most admirable résumé The Angelic Doctor's "system" presupposes two great* syntheses which he accepts "ready-made"—a theological synthesis of revealed truths (worked out by the theologians of the 'Sentences' in the twelfth century), on the one hand, and a synthesis of truths accessible to reason (Aristotelianism), on the other There is no way of joining these two syntheses Reason can be applied to *vérités de foi*—not, however, to demonstrate them, only to infer what consequences they imply when taken as premises Next follows a clear account of Thomas's epistemology, his proofs of God s existence, and his Christianized Aristotelianism; then, after sections on the Averroïsm of Siger de Brabant, the Oxford school, Roger Bacon, and Lulle, we reach the fourteenth century (ch vi), the epoch of Nominalism Diverging elements in *the thought of the Thomist period find expression in Duns Scotus,* a thinker of real originality whose ideas cannot be fitted into the framework of scholastic doctrine so far developed His main theses—the actual existence of matter, individuation by form, the priority of will—at once emphasize his departure from Thomism, define his position,and isolate him from the previous century. Thomistic Aristotelianism now loses in prestige, "philosophical speculation unfolds autonomously and freely." With the Renaissance (ch vii)

1 É. BRÉHIER *Histoire de la Philosophie* Tome Premier, Fascicule III *Moyen Âge et Renaissance* Pp 523–791 20 fr

É. BRÉHIER *Histoire de la Philosophie* Tome Premier (first three fascicules). *L'Antiquité et le Moyen Âge* Paris: Félix Alcan 1930 Pp. 791. 55 fr.

four currents can again be discerned. First, theocentricism gives way to a vigorous but more or less vague "naturalism." Christian tradition, however, still dominates the efforts of the Platonic humanists, ever intent on finding in Platonism a philosophical synthesis that supports Christianity. Secondly, the Averroïsts of Padua, continuing the work of Siger de Brabant, find in Aristotle a naturalist who denies providence and the soul's immortality, and affirm a rigorous determinism. Thirdly, there are the strict "men of science," who take for their model neither Plato nor Aristotle, but Archimedes—"he who first had been able to connect mathematics with experience." "Archimedes, wholly ignored in the Middle Ages, reaches in a single stroke a state of science far more advanced than anything that the prevailing tradition could teach." Fourthly, there are the moralists who, like the scientists, trying to discover Nature independently of its origin or end, propose to elaborate a positive description of man's nature freed from reference to any supernatural destiny. So the seventh chapter, which illustrates these four tendencies in their concrete setting, brings us to the dawn of the seventeenth century, the inception and rise of Cartesianism and the mechanistic hypothesis in science.

Professor Bréhier's other fascicule[1] reads even more attractively. After a chapter on the conceptions of human nature and of external nature at the beginning of the century, and a further one devoted to Francis Bacon and his "experimental philosophy," we come to a remarkably succinct and ample résumé of Descartes's philosophy, an estimate of the Cartesian movement and outline sketches of the chief Cartesians. Malebranche is allotted a chapter apart, so too are Pascal and Hobbes. The longer chapters devoted to Spinoza and Leibniz, though they can hardly be said to present these difficult systems adequately, are probably as detailed as could be without losing trace of historical continuity. A chapter of twenty pages on Locke and a briefer one on Bayle and Fontenelle prepare the reader for the fifth fascicule on the Eighteenth Century, which the publishers now announce. Professor Bréhier's four fascicules are as entertaining as they are informative. Nothing breaks the continuity of the account. Far from being a 'cram-book,' the work has the qualities of a scholarly, readable, and ample, though not-overburdened, history, without a trace of *parti pris*. And its accounts of lesser thinkers and 'tributary' movements is quite sufficient to help those who are not "specialists" in the history of philosophy to survey the whole story synoptically, fill in the gaps in their knowledge, and deepen their historical understanding of the whole.

Since the eighties, the standard treatise in France on the History of Philosophy has been the admirable volume of Paul Janet and Gabriel Séailles. This is not a "history" in the usual sense—in which Professor Bréhier's is—but a history of "Problems and Schools." Separate problems are taken up, and the differences in treatment and solution they have successively received is traced down from the "beginnings" to the first half of last century. These "single problems" (*e.g.*, "Sensation and External Perception," "Theories of Reason," "Universals," "Induction," "Matter and Mind," "The Problem of a Future Life"—in all twenty-six) are classified under the headings Psychology, Ethics, Logic, Metaphysics, and Theodicy, and form the first and major part (900 pages) of the work. The second part covers "historical philosophy," arranged in "schools." Evidently certain limitations and defects are inherent and insurmountable in such a treatment, but the "plain, historical method" also

[1] E. Bréhier: *Histoire de la Philosophie. Tome II, La Philosophie Moderne. Fascicule I, Le Dix-Septième Siècle.* Paris: Félix Alcan. 1929. Pp. 314. 20 fr.

has its own peculiar difficulties too. And each method of presentation has no less its own peculiar advantages, 'Janet and Séailles' and 'Bréhier,' in fact, *usefully* supplement each other

Five Professors of Philosophy have now collaborated to bring 'Janet and Séailles' down to date, though still retaining its original *cadres*, by tracing the history of certain isolated problems The difficulties of producing such a *Supplement*[1] that should be full enough to be comprehensible yet brief enough to remain an appendix, must have been formidable In the main, however, the result is successful Dr DOROLLE manages to compress into two chapters ("Development of Deductive Logic" and "Induction") something of the results of Russell and Couturat, and of Lalande, Nicod and Keynes The former chapter is a brief, clear statement of the origins of logistic, logical ideography, propositional functions and logical constants, while the second discusses important definitions of induction (Lachelier, Hamelin, Lalande), distinguishes logical from philosophical problems connected with it, and considers analyses of experimental procedure and the theory of inductive probability (Nicod, Keynes). These chapters occupy together only twenty-two pages! Professor REY, restricting himself to the Mind-Body problem, discusses mechanism and dynamism, and outlines certain large issues raised by Mach, Poincaré, the pragmatists, and, in particular, Bergson Dr TISSERAND, whose chapter on "Pluralism and Truth" precedes Professor Rey's, seems unduly absorbed in Pragmatism, and apart from this does not stir far beyond Renouvier and Cournot. There is no trace of a word of importance having been uttered on his subject by, say, anyone at Cambridge Dr PARODI, in his chapter on "The Moral Problem," seems unduly generous to minor men *Seven out of twenty-two pages seems an excessive allowance to Neitzsche.* Dr. Dugas alone is able to bring to date *all* the problems treated in the corresponding division of the main work His eleven chapters contain some excellent points about Gestalt psychology, Durkheim's theory that reason is a "social product," the views of James, Bergson, and Brunschvicg on both reason and memory, experimental work on the latter, and a section on what is of psychological interest in phonetics and semantics —While the several divisions are unequal in merit, the whole "Supplement" is certainly a good and useful publication, a worthy continuation of a renowned treatise

Four additions have recently been made to the series of "pocket" volumes —the *Collection Armand Colin*, two on Philosophy and two on Psychology Dr. A. RIVAUD, late Professor at Poitiers, now of the Sorbonne, whose fine work on "The Problem of Becoming and the Notion of Matter in Greek Philosophy" raised him to the rank of an authority, has contributed a most readable outline of the "Main Currents in the Thought of Antiquity,"[2] perfectly suited for introducing the larger treatises Dr. A. CRESSON, of the Lycée Condorcet, outlines in "The Philosophical Systems"[3] in plain, untechnical French the chief problems that have arisen, and the answers that have been returned to them, under the headings of "Dogmatisms," "Agnosticisms," and "Philosophies of Belief."

[1] MM PARODI, TISSERAND, DUGAS, DOROLLE, REY: *Histoire de la Philosophie Les Problèmes et les Écoles. Supplement, Période Contemporaine.* Paris Delagrave. Pp 240 15 fr.
JANET ET SÉAILLES: *Histoire de la Philosophie, Les Problèmes et les Écoles, avec Supplément* 14th édn Paris: Delagrave 55 fr

[2] A RIVAUD. *Les grands courants de la Pensée Antique* Paris: Colin 1929 Pp 220 Bound, 10 fr. 50; stitched, 9 fr.

[3] A. CRESSON: *Les Systèmes philosophiques* Paris. Colin 1929 Pp 220 Bound, 10 fr 50; stitched, 9 fr.

Professor C. BLONDEL,[1] of Strasbourg, returns again to his theme that collective psychology is logically prior to individual psychology, attempts to define the object of the former, and determine its position in the whole field of psychology and indicate its working hypotheses. Professor WALLON of the Institut de Psychologie, in his "Principles of Applied Psychology,"[2] gives as detailed an account of the psychology of work, aptitudes and the method of tests, professional selection and orientation, and the psychical motives and consequences of activity, as is often found in larger and expensive books.

Professor M. FOUCAULT has come to the aid of candidates for the *baccalauréat*, the entrance examination to the University in France, with a delightful little book of "First Lessons in Experimental Psychology."[3] Like all M. Foucault writes, these "Lessons" are of the utmost lucidity and directness. In seven chapters the ground of elementary psychology is resumed. Sensory experience, imagery and associations, mental work, intelligence testing, and voluntary movements are all subjects of simplified experiments, methods of measurement being introduced where possible. This splendid little work is equipped with its own "laboratory material" in the form of coloured leaves for experiments on vision, columns of words for those on imagery and association, and columns of numbers for those on the law of exercise and on mental fatigue. How could the candidate for the "*bachot*" be helped more?

Lastly, Dr. Henri PIÉRON, the distinguished Professor of the Collège de France, has had the happy thought of making his lectures on "Mental Development and Intelligence," delivered at the University of Barcelona, accessible to a wider circle of readers.[4] He begins by showing how mental development is dominated by biological and social conditions, and that the level of intellectual expression depends in great part on the intellectual material each civilization has furnished to the individual. He brings out clearly the confusion that has arisen in the use of intelligence tests between the determination of the levels of mental development successively attained with increasing age by every normal subject, and the measure of the intelligence proper to each individual. Were there an exact correspondence between them, the intellectual quotient would be invariable for each individual, but, in fact, it tends to vary through successive ages. The last lecture on problems of evaluation of intelligence, and the need of an analytical estimate, is most suggestive. We ought in the future to be able to define more exactly in what intelligence consists, to discover whether it consists of a group of entirely distinct aptitudes, or of some sort of central power which can be applied to special aptitudes. It would be an inestimable benefit for students of psychology to have these brilliant lectures translated into an English as clear-cut as Professor Piéron's French.

The following are the courses of public lectures in philosophy announced to be delivered in Paris at either the Collège de France or the Sorbonne: In PHILOSOPHY: Professor Lalande, *Nature and Method of the Moral Sciences*; Professor Brunschvicg, *Philosophy and Metaphysics*; Professor A. Rey, *Philosophical History of the Sciences at the Culmination of Hellenic Civilization*; Professor E. Gilson, *The Mysticism of St. Bernard de Clairvaux*; and *Researches into the Doctrines of the Early Middle Ages*; Professor Basch, *Æsthetic Sym-*

[1] C. BLONDEL: *Introduction à la Psychologie collective*. Paris: Colin. 1928. Pp. 206. Bound, 30 fr. 50; stitched, 9 fr.

[2] H. WALLON: *Principles de Psychologie appliquée* Paris: Colin. 1930 Pp 224 Bound 12 fr.; stitched, 10 fr. 50

[3] M. FOUCAULT: *Premières Leçons de Psychologie expérimentale, à l'usage des candidats au Baccalauréat* Paris. Delagrave 1930. Pp. 94 12 fr.

[4] H. PIÉRON: *Le Développement mental et l'Intelligence*. Paris: Alcan. 1929 Pp. xii + 96, 10 fr.

bolism and Sympathy, and *Classical Æsthetic in Germany from Herder to Kant*; Professor Fauconnet, *Sociological Problems*, Professor Robin, *Problems in the History of Ancient Philosophy*, Professor Masson-Oursel, *Explanation of the Yoga-Sûtras*, Professor Rivaud, *Philosophy of Maine de Biran*, Professor Le Roy, *The Primitive Forms of Intelligence*, and *Disciplines and Criteria of Intuitive Thought*, Professor Bayet, *Moral Ideas in the Christian Churches during the First Centuries*.—In PSYCHOLOGY Professor Delacroix, *Intelligence*, Dr. Wallon, *Origins of Character in the Child*, and *Development of the Feeling of Personality*, Professor Dumas, *Pathological Psychology*, Professor Piéron, *Auditive Perceptions and Theories of Hearing*.

S. V KEELING.

PHILOSOPHY IN GERMANY

SUMMARY *This survey deals with publications arranged under the heads of Neo-scholasticism, Phenomenology, and Scientific Philosophy, three of the main currents in contemporary German philosophy Under the first head is* Philosophia Perennis, *an international collection of essays by sixty-eight Catholic philosophers Under the second head are Edmund Husserl's* Formal and Transcendental Logic *and Roman Ingarden's essay* On the Place of Epistemology in Philosophy. *Under the third head is* Erkenntnis, *a new journal which expresses the views of such philosophers as Carnap, Dubislav, Reichenbach, Schlick, and Waismann*

I. NEO-SCHOLASTICISM

It is a German custom to honour eminent philosophers before they are dead. The philosopher's sixtieth or seventieth birthday provides the occasion, and a collection of essays by those who share his outlook usually forms the honour The two volumes of *Philosophia Perennis*[1] commemorate the sixtieth birthday of JOSEPH GEYSER, the distinguished Munich neo-scholastic, and the gift and the recipient are worthy of each other. Printed and bound in an exceptionally pleasing and praiseworthy manner, these stately volumes are also a credit to their publishers, one of whom has studied under Geyser. Nor do their contents belie their appearance. The book is composed of sixty-eight essays from Catholic philosophers in sixteen different countries, together with an introduction by the editor, FRITZ-JOACHIM VON RINTELEN, of Munich, and a full list of Geyser's published works *This survey will deal with some* of the essays written in German But the names of Gemelli, Gilson, Maréchal, *and Sertillanges, to mention only a few, indicate how much valuable material* there is in other languages as well. Only three of the essays are directly on Geyser The others are on various aspects of *philosophia perennis*, which is taken to be either Aristotelian scholasticism or the elements common to different philosophical systems The first volume contains essays on different philosophical periods from the Greek to our own, and many eminent authorities write on the patristic and scholastic periods The second volume contains essays on different philosophical problems, classified according to the branch of philosophy to which they belong, and it is at the end of this volume that the three essays on Geyser occur Max Ettlinger, formerly of Munich, writes on Geyser's psychology, Kurt Huber, of Munich, on his logic and epistemology;

[1] *Philosophia perennis: Aufsätze zu ihrer Vergangenheit und Gegenwart* Two volumes. Regensburg. Josef Habbel 1929. Pp XVIII + 1244. RM. 37.

and Ludwig Baur, of Breslau, on his metaphysics. All three accounts, though brief, are comprehensive and lucid.

It is not surprising that Geyser has become conspicuous in controversy, for the idealism and intuitionism which he has attacked have luxuriantly flourished around him. It is through controversy that he has reached his own position. He is an Aristotelian scholastic because he believes that Aristotelian scholasticism contains more truth than any other historical system. He thinks, however, that neo-scholasticism should aim not so much at interpreting as at developing the past. Huber points out that, as a realist, Geyser emphasizes, with Aristotle, the receptive character of cognition, though he believes that cognition is active as well. Cognitive activity, while not affecting that on which cognition is directed, does affect the content of cognitive acts. Truth, according to Geyser, consists in the correspondence between what is thought and objective facts. And logic must study objective facts, since laws of thought thus depend on laws of being. In opposition to Husserl, Geyser denies the reality of an independent world of ideal objects. In opposition to Bauch, he denies the reality of objective judgments. Anything that is must be a particular, and all essences and universals are in particulars. He emphatically asserts that the empirical self is a particular, and attacks all attempts to construct it out of a set of mental events. Geyser's disagreements with the idealists are legion—his repudiation of the transcendental self and his insistence on the contingency of every particular are further examples. But his position is not wholly dissimilar from Husserl's. Both philosophers are anxious to keep logic distinct from psychology, and to emphasize the importance of the intuition of essences (*Wesensschau*), though Geyser believes that intuition includes abstraction, while Husserl regards these two mental processes as fundamentally different. Nevertheless Geyser has vigorously supported proof in the great controversy about intuition and proof among German Catholic philosophers. He is opposed to all attempts, like that of Scheler, to base knowledge of the existence of God on intuition through feeling. In his view, the existence of God can be proved. God alone provides the ultimate explanatory principle of the world. God alone could have brought about the existing correspondence between our knowledge and objective facts.

Only four other essays, two in each volume, can be mentioned here. In the first volume the essay of ARTUR SCHNEIDER, of Cologne, on "The Logical Relativism of Hans Leisegang" deals with some of those attempts to divide philosophical systems into types which have recently been so popular in Germany. The first of these attempts was made by Trendelenberg, but that of his pupil, Dilthey, has attracted special attention. Dilthey, as the result of an empirical study, believes that there are three constantly recurring types of philosophy: Materialistic Positivism (*e.g.*, Epicurus, Hobbes, and Comte); Objective Idealism (*e.g.*, Spinoza and Hegel); and the Idealism of Freedom (*e.g.*, Plato and Kant). He also believes that the differences between types of philosophy are ultimately based on differences in temperament between philosophers. And since these temperamental differences will persist, variety in philosophy will persist. Karl Groos and Hans Leisegang have also contributed to 'typology'. The latter, in his *Denkformen*,[1] holds that different types of philosophy are due to different types of logical thought—to different logics. Like Dilthey, he ends with a relativist view, believing that every philosophical system must be judged solely by the laws of the particular logic to which it is related. Schneider is opposed to all such relativism. In

[1] Surveyed in this *Journal*, vol. v. pp. 108–9.

his view, the proper function of typology is to help us to discover the true philosophical system by clearly classifying our knowledge of past systems

FRANZ SAWICKI, of Poland, brings the historical essays to a close with a discussion of the philosophy of history as part of *philosophia perennis*. His aim is to state certain fundamental doctrines which are common to many different philosophies of history and extend far beyond Aristotelian scholasticism He admits that they are not common to all philosophies of history, but he claims that they are common to all that give "a reasonable explanation of historical development" *Philosophia perennis* asserts, according to Sawicki, that the development of mankind exhibits a purpose analogous to that of the individual, that the end to be achieved by mankind is the realization of values, the highest of which are religion and morality, and that personal activity and divine reason have an important influence on the course of events Opposed to *philosophia perennis* are first, all theories which regard historical development as meaningless—which relegate the theory of purpose to "the museum of human errors", secondly, all theories which admit merely some negative purpose, such as the removal of pain by the renunciation of the will to live, thirdly, all theories which regard individual activity as ineffective In his brief discussion of the grounds on which *philosophia perennis* rests, Sawicki argues that only if God exists can historical development be purposive.

In the second volume DIETRICH VON HILDEBRAND, of Munich, writes on his conception of 'the objective good for the individual' He distinguishes between three ethical concepts: what is good in itself, what is objectively good for the individual, and what satisfies the individual A successful investment is merely satisfying Moral improvement is objectively good for the improving person. It is also good in itself These examples show, not only that the three ethical concepts are different, but also that they are not mutually exclusive. Moral improvement, we see, is both objectively good for the improving person and good in itself Similarly, health is normally good for the healthy person as well as good in itself And certain states of affairs—as in the case of travel, professional success, or friendship—may both satisfy and be objectively good for the person concerned Nevertheless, the three ethical concepts are different, in spite of the fact that they sometimes coincide. Hildebrand specially emphasizes the distinction between what is objectively good for the individual and what satisfies him The true 'interest' of the individual is not always that which satisfies him Illness may be objectively good for a person, while revenge or cocaine may satisfy him. What is good for the individual must not be confused with what is good as a means What is good as a means is good only in the sense that it leads to something which is good in itself What is objectively good for the individual involves a new and independent ethical category. Hildebrand believes that the recognition of this category reveals many new ethical problems and throws fresh light on many old problems His essay makes many suggestions, and applies his doctrine, in some detail, to the conflict between egoism and altruism. This conflict, he says, cannot present a problem for ethics, if we confine ourselves to the two categories of the merely satisfying and the intrinsically good If the individual ought simply to produce something good in itself, it is ethically irrelevant whether the good produced is his or another's. Only when we admit that moral action must aim at producing, not merely what is intrinsically good, but also what is objectively good for the persons concerned—only then does the conflict between egoism and altruism become ethically important Hildebrand pursues the question why there should be an ethical difference between producing something good for

oneself and producing something good for another person. Why, he quaintly asks, is it of no moral value to procure a tasty dish for oneself, meritorious to procure it for another, and still more meritorious to give away one's own share? He answers that in procuring what is good for another we are aiming at his well-being, whereas in procuring what is good for ourselves we are often aiming merely at satisfaction. But he admits that the ethical distinction between egoism and altruism is small in connection with goods whose power to satisfy is small.

A. ROHNER, of Freiburg in Switzerland, condemns those modern philosophers who begin with problems of the self and end with some form of idealism. In his view, metaphysics arises from the question, What is reality? and its basic task is to discover the fundamental nature of reality. Problems connected with the human spirit or God should come at the end, not at the beginning. He thinks that Scheler's philosophical work is of special interest as an attempt to base a realistic metaphysic on an examination of the self. He briefly contrasts Scheler's position with that of Saint Thomas Aquinas. Saint Thomas Aquinas clearly realized that the basic metaphysical problem concerned the nature of reality, and he made the classic statement that everything that is consists of a whole composed of essence and existence, the nature of the whole determining their relative proportions. This view, according to Rohner, regulated all Saint Thomas Aquinas's further distinctions, as, for example, between infinite and finite reality and between substantial and accidental reality; and it led to his doctrine that in God alone are essence and existence identical. Thus Saint Thomas Aquinas's whole metaphysical structure is based on his solution of the problem of reality. Scheler, on the other hand, begins with the nature of spirit. In God, spirit is the perfection of knowledge and value, and, although itself devoid of force, is combined with 'urge,' which is conceived as blind energy. Scheler regards spirit and urge as respectively essence and existence. In God they are unified; in man they are distinct, and there is tension between them. The function of spirit is to sublimate urge, and spirit comes into existence only in opposition to the material world. Spiritual activity involves three kinds of awareness: awareness of the world, awareness of the self, and awareness of God. Awareness of God is fundamental, and, in conjunction with the other two kinds of awareness, gives rise to religion and metaphysics. Rohner disagrees with Scheler's attempt to base metaphysics on awareness of God, with his attribution of blind energy to God, with his treatment of the relation between essence and existence, and with his theory of sublimation.

II. PHENOMENOLOGY

EDMUND HUSSERL'S *Formal and Transcendental Logic*[1] will be most appreciated by those who already know something about his philosophy. It assumes that its readers are familiar both with the special theories and with the special vocabulary which Husserl and his followers have developed. Nevertheless, even a novice, if he be prepared to read the book with patience and care, should not fail to grasp the fundamental points of phenomenology.

Husserl is dissatisfied with the present relations between science and logic. The sciences, according to him, regard themselves as independent of logic and uncritically employ methods whose sole justification is that they are useful in practice. They rise above the naivety of the plain man only to become engulfed in "a naivety of a higher order." A genuine science, on the

[1] *Formale und transzendentale Logik: Versuch einer Kritik der logischen Vernunft.* Halle Saale): *Max Niemeyer. 1929 Pp xi + 298. M. 14.*

other hand, must be based on an *a priori* investigation both of the nature of possible knowledge and of the methods by which such knowledge may be acquired And this investigation belongs to logic, whose function is to discover the essential nature of valid scientific inquiry and thus to provide a norm with which every actual science must comply In this book, as elsewhere, Husserl emphasizes the importance of the *a priori*, and gives it a prominent place in phenomenology

Husserl holds that the existence and nature of every object depend on conscious acts of the transcendental self He does not hold that all objects are mental states, on the contrary, he explicitly rejects this view But he does believe that all objects are constructed by consciousness Consciousness is essentially intentional, and it constructs its objects in a series of cognitive acts No object is constructed by a single conscious act. A physical object, for example, is constructed by a series of perceptual experiences Indeed, it is the awareness of some objective constituent persisting unchanged through a series of mental states that justifies our distinguishing objects from experiences The conscious acts which construct objects are acts of the transcendental self The empirical self is as much an object as a toothbrush, and, like all other objects, it depends, for its existence and nature, on the conscious activity of the transcendental self But, although all objects, including empirical selves, are mind-dependent, they are of two distinct kinds There are existent objects and ideal objects Any particular person or thing is an existent object Propositions, essences, and all the objects dealt with by logic are ideal objects Ideal objects are as real as existent objects, and we know them with as much certainty as we know existent objects. But the two kinds of objects are different, and, though the evidence for both is ultimately direct (the object is "itself given"), they are known in different ways The conscious acts that construct and reveal ideal objects are different in nature from those that construct and reveal existent objects

Formal logic, according to Husserl, must deal with logical objects (propositions, etc), not with logical experiences. It is concerned with what is logically thought, not with how it is thought Two things about formal logic are of great importance (i) The objective elements in logic may be ordered on three different planes, corresponding to three different ways of judging First, there is the theory of propositional forms—logical grammar—a system of propositional forms constructed without reference to their compatibility or truth Secondly, there is the logic of compatibility, a system of propositions constructed by reference to their compatibility Thirdly, there is the logic of truth, a system of propositions constructed by reference to their truth. These three systems constitute formal *Apophantik* (ii) Formal *Apophantik* is related to formal ontology—the system which deductively connects the completely general concept of 'being' or 'something' (*Etwas uberhaupt*) with its modifications, such as 'property,' 'relation,' and 'fact ' Formal *Apophantik* deals with what is thought to be, formal ontology with what is The correlation between the two is complete, and together they make up formal logic

Transcendental logic is not concerned with the objective elements in logic. It deals with the conscious acts by which these objects are constructed and known Every investigation of objects, whether they be existent or ideal, must be based on an *a priori* investigation of the conscious acts which construct them Hence transcendental logic is a necessary study of the conscious acts which construct logical objects It is necessary because it alone makes possible a complete understanding of logical objects. And it guarantees the validity of the positive sciences as well as of formal logic. Its own validity is guaranteed by its forming part of transcendental phenomenology—that

investigation of the transcendental self's constructive acts which is its own guarantee.

Husserl's attitude to *Psychologismus* is thus made plain. Formal logic deals with logical objects and must exclude all psychological considerations. Transcendental logic deals with those conscious acts of the transcendental self which construct logical objects. *Psychologismus* is doubly wrong. Like "bad idealism," it identifies objects with mental states. And it imports into logic an empirical investigation of the empirical self, whereas what is required is an *a priori* investigation of the transcendental self.

The small book *On the Place of Epistemology in Philosophy*,[1] by ROMAN INGARDEN, of Lemberg in Poland, consists of one of three articles which set forth Ingarden's views on epistemology. He distinguishes between pure and applied epistemology. In true phenomenological manner he regards the former as an *a priori* science concerned with the essential nature of possible knowledge, whereas the latter is concerned with actual knowledge. Epistemology may seem perilously similar to psychology, on the one hand, and to the natural sciences, on the other; for, being concerned with knowledge, it must deal both with the subject and the object of knowledge. But, says Ingarden, it is concerned neither with actual subjects nor with actual objects. It considers subjects and objects only in so far as they are essential to knowledge. The psycho-physical subjects of psychology are not essential to knowledge, nor are the different existing objects with which the different natural sciences deal. Epistemology is really much more similar to phenomenology and the various ontologies. Phenomenology analyses the essential nature of conscious acts and epistemology the essential nature of cognitive acts. The ontologies inquire into the essential nature of different classes of objects, and epistemology into the conditions which valid knowledge of these objects must fulfil. Nevertheless, Ingarden stresses the point that, though related to phenomenology and the ontologies, epistemology is in no way logically subordinate to them. In his concluding section Ingarden urges that, while epistemology provides the sciences with tests of truth, it cannot provide them with data.

III. SCIENTIFIC PHILOSOPHY

Very different both from phenomenology and from neo-scholasticism is the scientific philosophy expounded in *Erkenntnis*,[2] a journal which continues the *Annalen der Philosophie*, and is edited by RUDOLF CARNAP, of Vienna, and HANS REICHENBACH, of Berlin. The outlook of this new journal is revealed by Reichenbach's statement, in his introduction to the first number, that philosophy must be based on empirical research in natural and mental science. And this outlook is made even more distinctive by most of the contributors to the first four numbers. Their articles present the view that philosophy has no special subject-matter; that it formulates no new propositions; that it analyses the propositions formulated by the special sciences; and that it is a method of clarification, not a science. According to the writers in *Erkenntnis*, philosophers who believe that philosophy does possess a special subject-matter are bound to ask nonsensical questions and to give nonsensical replies, because they talk about nothing Scientific philo-

[1] *Über die Stellung der Erkenntnistheorie im System der Philosophie*. Halle (Saale): Max Niemeyer. 1926. Pp 36. M. 1 50.

[2] *Erkenntnis*, vol. I, nos. 1–4, *zugleich Annalen der Philosophie*, vol. IX, nos 1–4. *Leipzig*: Felix Meiner. Annual subscription, RM. 20. About six numbers are to be published, not necessarily separately, every year.

sophy is firmly established in both Vienna and Berlin. The Ernst Mach Association in Vienna and the Society for Empirical Research in Berlin are both devoted to its promotion, and *Erkenntnis* is their journal. In 1929 these two societies arranged a congress in Prague for the discussion of the epistemology of the exact sciences The second, third, and fourth numbers of *Erkenntnis* contain a full report of this congress together with valuable lists of each speaker's published works. It is interesting to note that, while most German philosophers never refer to any of their English contemporaries, the scientific philosophers do refer, and with great respect, to Russell, Whitehead, and Ramsey. Their chief authority, of course, is Wittgenstein.

In the first number of *Erkenntnis*, MORITZ SCHLICK and RUDOLF CARNAP, the central figures of the Viennese group, set forth the distinctive view of philosophy outlined above. Schlick's article closely resembles the paper he read at the recent Oxford congress He believes that philosophy has changed its direction, and that the sterile conflict of different philosophical systems is ended. The new view of philosophy as a clarifying process, not a science, will lead to the solution of all philosophical problems. This note of hopefulness is struck again and again by different contributors. The existing confusion in philosophy is due, they say, merely to the asking of nonsensical questions. We are now able to see what questions can be asked, and, if a question can be asked, it can be answered Schlick thinks that, though not itself a science, philosophy should be honoured as the queen of sciences. It gives the ultimate explanation of scientific propositions, and is thus the alpha and omega of scientific knowledge Carnap describes the new logic that must be applied to scientific propositions and concepts. He believes that it has entirely superseded the old logic, and points out that it is essentially symbolic, that it recognizes relational propositions (with important results especially for mathematics and physics), that its propositions are all equally ultimate, and that they are all tautologous His contribution to the attack on past philosophies is based on the tautologous character of logical propositions and on the mere difference of verbal form between any deduced proposition and the propositions from which it is deduced. Philosophers mistakenly thought both that they could base existential propositions on logical propositions and that they could reach knowledge of objects not given in experience—as, for example, the Absolute—from knowledge of objects that *are* given in experience At the end of his article Carnap outlines his view that all concepts, to whatever science they belong, are ultimately derived from immediate experience. We can construct a genealogical tree in which every concept has its place. Similarly, every scientific proposition is reducible to a proposition about the immediately given Thus, ultimately, there are, not many sciences, but one.

Another contribution to the first number is REICHENBACH'S article on "The Philosophical Significance of Modern Physics" Modern physics has shown, he maintains, that the so-called *a priori*, physical categories apply *only to objects of medium size*—to objects in the world of everyday experience—not to exceptionally large or small objects, like the solar system or electrons In the world of everyday experience space is at least approximately Euclidean, and events are ordered by laws that are almost strictly causal But the space of the solar system is not Euclidean, and causal laws do not apply to electrons. This discovery that the old, fundamental concepts of natural science apply only to objects of medium size constitutes the Copernican revolution of our time How, he asks, are we to reconcile the world of physics with the everyday world? The difference between the two worlds is enormous. The concrete things of the everyday world can be

grasped and seen, and they are regulated by simple, easily ascertainable laws. The world of physics is a world of moving atoms in which there is no light, no colour, no sound. But if we regard such a world as incomprehensible, it is simply because we are blinded by custom. We are so familiar with the categories of the everyday world that we treat them as universally necessary. Nevertheless it is possible to know the newly discovered categories by intuition. We can form an intuitive picture of concrete things in Riemannian space, ordered, not by causal laws, but merely by laws of probability. Moreover, the everyday world does, in certain important respects, resemble the world of physics, and an increasing recognition of these similarities is very desirable. Both worlds have the same ultimate criterion of knowledge—success in prediction. And the elimination of anthropomorphism which physics has achieved is gradually taking place in our ordinary life. Unwillingness to hold fast to beliefs merely because they are comforting is now a characteristic not only of science but also of our thinking in the everyday world.

The discussion of probability and causality occupied a prominent place at the congress at Prague. Considerable interest was aroused by the paper of FRIEDRICH WAISMANN, of Vienna, on "The Logical Analysis of Probability." Waismann attacks the theory, popular among participants in the congress, that probability is analysable into relative frequency. On this theory, if I say that the probability of a dice's turning up 2 is one-sixth, I mean merely that, given a sufficient number of throws, 2 will occur, on the average, once in every six throws. Waismann states two objections to this analysis. First, it implies that relative frequency is ultimate—that there is no sense in asking why a certain relative frequency occurs. It does not, and cannot, attempt to explain the fact that, if the dice is 'correct,' the probability of throwing 2 is one-sixth, and if it is loaded, the probability changes. And this position is untenable. Secondly, whereas observation discloses only finite series, the statistical theory of probability must, in order to be useful to physics, treat its series as infinite, mathematical series. And this procedure is fallacious, because a mathematical series is essentially law-determined, while a purely statistical series is essentially lawless. Advocates of the statistical theory would answer, says Waismann, that the required infinite series are merely ideal limits like geometrical constructions, and that such idealisation is as legitimate in the theory of probability as in geometry. But this Waismann, founding himself on Wittgenstein, denies. Ideal limits are not reached by refinement of the actual; they are given in advance. Geometrical laws, for example, provide a syntax in which actual spatial situations may be described. Where—as in the statistical theory of probability—no system of presuppositions can be provided, there is no sense in speaking of idealization. Not being an ideal limit, a relative frequency cannot support the mathematical calculation which the statistical theory of probability seeks to base upon it.

Having made these objections, Waismann suggests another analysis of probability. This centres in the logical relation—the 'logical nearness'—of propositions. A proposition never refers to a single fact, but always to a region of facts. The smaller the region of facts referred to, the more precise and determinate is the proposition. One proposition follows from another if its region of facts contains that of the other. Two propositions contradict each other if their regions are wholly separate. Usually the different factual regions of different propositions overlap. The region of facts to which a proposition refers can be measured. If p and q are two propositions whose

regions of facts can be measured, the probability of q in relation to p is the ratio formed by dividing the region common to both propositions by the region of p This conception of probability, Waismann believes, is not open to the charge of subjectivity, for it entirely depends on the logical relation of propositions

HELEN KNIGHT.

NEW BOOKS

Process and Reality. By A. N. WHITEHEAD, Sc.D., LL.D., F.R.S., Fellow of Trinity College in the University of Cambridge and Professor of Philosophy in Harvard University (Gifford Lectures delivered in the University of Edinburgh during the Session 1927–28). (Cambridge, at the University Press. 1929. Pp. xxiii + 509. Price 18s.)

Though prophecy is always rash, it is tempting to prophesy that the publication of this book will mark one of the turning-points of the history of philosophy. It is not that it is free of faults. In places it is obscure with an obscurity the great Kant himself can hardly have exceeded. For this reason, if for no other, it will provide a fruitful soil for the cultivation of Ph.D. theses. The terminology used is more of a stumbling-block than an aid to understanding. After these strictures, and after adding that I am far from prophesying that Professor Whitehead's system is necessarily the philosophy of the future, let me attempt to justify the rash prophecy of the first sentence. I shall not do more than indicate certain main lines in his reasoning, as far as I understand it, and contrast it with traditional views. Let us begin with the traditional views.

Towards the end of the nineteenth century it appeared to the rash prophets of that generation that, broadly speaking, all the possible metaphysical systems had already been devised, and that the task for future thinkers was to develop special topics along the lines of one or other of the great systems, and with a very large measure of fundamental agreement. But during the present century there has been a great change. Philosophy, to adapt a well-known phrase, has struck her tents, and is once more upon the march.

What, for convenience, I shall call Seventeenth-Century Philosophy began with Descartes, and ended roughly with the end of the nineteenth century. On the purely philosophical side the work of Bergson marks the beginning of the end, as that of Planck and Einstein on the scientific. Descartes and the other pioneers, though they considered they were leading a revolt against the Schoolmen, carried with them only too faithfully one part of the scholastic philosophy, namely, the logic. It was assumed implicitly that there was something ultimate and elementary about the subject-predicate form of proposition. The universe therefore must be composed of substances and their attributes. This theory was never questioned by the founders of physics, Galileo, Descartes, and Newton, and was therefore worked into the "classical" treatment of Space, Time, Matter, and Motion. It is not until the present time that this fundamental framework of logic, ontology, and cosmology has been examined and criticized, although, as Professor Whitehead points out, there has been all along an undercurrent of ideas incompatible with it.

As has been said, Bergson delivered the first important attack on the philosophical side, but his work was purely negative, because he considered that the defects of seventeenth-century philosophy were inherent in the reasoning faculty of the human mind. On the scientific side criticism might have come from various sources long before it did, but for the tendency to let sleeping dogs lie. It is worth noticing that all the fundamental entities of classical physics were treated as substances, or as somehow based on

substance, with the exception of Entropy, which for this reason was looked on with suspicion, or surrounded with mystery. At any rate it is only during the last few years that the old physics of substance has clearly begun to disintegrate, and the new physics that is gradually appearing before our eyes, whatever final form it takes, will be a theory of events and not of substances

Professor Alexander has been the first to frame a complete system of philosophy consonant with the new movements in scientific theory. Professor Whitehead's system involves a more radical and conspicuous departure from traditional ways of thought To say that he has stepped farther is not to say that he has stepped the right distance or in the right direction, but the step once made cannot be ignored.

Professor Whitehead in his exposition refers to ideas he finds expressed by Descartes, Locke, and Hume which are in accord with his own views, though inconsistent with the general trend of thought of seventeenth-century philosophy. But one can make things clearer by going back farther still to the predecessors of Aristotle; not that we can burden these thinkers with the problems of our own time, but that their simple questions may stand symbolically for our more complex ones Plato (or Socrates) was faced with the task of reconciling two trains of thought, both apparently inevitable and incompatible The Eleatics pointed out that Being, that which *is*, must be one, immovable and changeless, otherwise it would partake of Becoming and Not-being Heraclitus, on the other hand, pointed to the world we experience as a universal flux, where there is only becoming and perishing, and nothing stays or really is. The famous Platonic (or Socratic) theory of Forms was the first attempt at a solution. The theory assumed, however, that the flux of becoming was somehow less actual or real than the Forms which *are*. Thus Plato, and with him nearly all his successors, have come down heavily on the Eleatic side of the fence In fact, the flux has not been considered quite respectable The first and most essential fact about Professor Whitehead's philosophy is that for him the Forms are pure potentials, and it is the flux that is actual. Although all things are perpetually becoming and perishing, nevertheless in their transience they actually are, and nothing else that does not become and perish ever is.

Plato's main difficulty was to find any connection between the Forms and the flux they were supposed to define. The doctrine of substance and attribute appeared to get over the difficulty. The forms are attributes, and the substances to which they are attributed are something unchanging in the midst of change to which they can adhere The doctrine of substance is by now deeply imbedded in thought and language, so that Professor Whitehead's attempt to expound a philosophy in which substance plays no part is inherently difficult.

Let us examine the significance of substance, starting from the consideration of any complete finite event—speaking a sentence, hearing a Symphony played, *the whole life history of a man or a star. The term event is here* used in the widest possible sense to include any process whatsoever, simple or complex For simplicity let us take the shortest event. A sentence has a beginning and an end, and occupies a duration of time. Before it began, and as it began there were circumstances relevant to its genesis. It was perhaps the answer to a question. When it is finished it is (we hope) relevant to the genesis of other events, it is a causal factor. Thus if the questioner (Mr. Smith) asked the way to the Railway Station, and I told him correctly, what I said was a part cause of his getting there; though by the time he gets to the station, and indeed long before, my speech is no more, having

become "part and parcel of the dreadful past." But because I said "turn to the right," and not "turn to the left," the condition of the universe for ever after is slightly different; my speech has attained what Professor Whitehead calls "objective immortality." Now nobody calls a spoken sentence a substance, though it is a subject of attributes, and not itself an attribute, and is as we have seen a permanent causal factor. That is because of the prejudice against things that only last a short time. Mr. Smith and I are dignified with the name of substances because with luck we last for several years. When I say Mr. Smith is a substance, I am arguing from the fact that I have had certain experiences in which there was from time to time some sort of repetition of pattern which I recognized, and to the common features of the group I attach the name Smith. These common features, however, are all platonic forms or attributes, whereas I suppose that there is an individual and a substance, Smith, to which they are attributed. Though the substance is never seen without the attributes, in fact is only known by them, it is a sort of string on which they are strung like beads, and which holds them together. What we perceive of Smith is at any given moment a cross-section of the events that go to make him up. By comparing different cross-sections, we find not only a certain similarity, but a certain causal continuity. It is this that leads to the idea of a sort of string on which the cross-sections are threaded. But the cross-sections are not actually there as such; they are merely abstractions made from my particular point of view from the spatio-temporal volume of events that constitutes Mr. Smith's life, or the society of events, if you prefer the phrase. No string is needed. The apparent need for string is to hold together what has been arbitrarily pulled apart in my analysis of the situations as seen from my particular point of view. What is attractive about the string is that it is in some sense a non-temporal entity, and therefore appears to be a suitable substrate for the forms or attributes which are also non-temporal.

Elements of stability and order in the world are undoubtedly important, as witness the superior interest of matter compared with empty space. But this has led to a belief as persistent as it is groundless that mere perpetuity is important and valuable. The doctrine of substance has been a great support to this belief by providing something in the midst of the flux of events, which was at any rate potentially eternal, and yet not a mere Form. It was with reluctance that anything labelled a substance was allowed to be perishable. The mainstay of both Materialism and Idealism has been the notion that matter or mind respectively were eternal substances. A great part of the theory of physics has been directed towards finding entities guaranteed perpetual, and it is only lately the quest has been given up as hopeless.

What is novel about Professor Whitehead's philosophy is not his abandonment of substance for events, but his treatment of them. Large scale events according to him are systems of atomic events, and these, which are called "actual entities" or "actual occasions," along with their relations are the constituents of the universe; the actual constituents that is to say, for the Forms are only potentials. Every actual occasion is related to every other actual occasion in the universe, if only negatively by absence of relevence, and all relations are internal. Thus an actual occasion A is generated from its prehensions of occasions B, C, D, etc., where these prehensions are positive. Where the prehensions, as of R, S, T, are negative, that implies that R, S, and T are not relevant to the becoming of A. Apart from these prehensions A is nothing; that is, there is nothing there beforehand. However, A is not merely a passive recipient, for other actual occasions, its successors,

prehend it in turn, and are generated from their prehensions The process of prehension is conceived as causal and as analogous to the experience of a conscious being The actual occasions are monads, but are unlike the monads of Leibniz in that they are not substances, but events, and their relations are causal and constitutive. The universe considered as the sum of all actual occasions is therefore a unitary and compact system

Each actual occasion grows out of its prehensions of its predecessors, and in its turn perishes in being prehended by its successors The principle of creativity or novelty in the world arises from the fact that each occasion is a novel entity, and is able to hand on something new to its successors, something that is that was not present in the predecessors as such, but is the result of its unique existence From this also follows the objective immortality of actual occasions which was mentioned above

An intelligent and coherent conversation, in which each thing said follows naturally from the last utterance, and leads naturally to the next, seems the best illustration of a set of actual occasions and their relations This would be a linear series only Imagine a conversation in which all the speakers speak at once, and yet each listens to the others and answers what they say, and that would be a more complete illustration For Professor Whitehead, as "both for Plato and Aristotle, the process of the actual world has been conceived as a real incoming of forms into real potentiality, issuing into that togetherness which is an actual thing Also, for the *Timæus*, the creation of the world is the incoming of a type of order establishing a cosmic epoch It is not the beginning of matter of fact, but the incoming of a certain type of social order " For him also God is the principle of determination which provides the ground why the "incoming forms" are these we find and not others But God appears not only as the principle of determination, but also as an event; as the conductor of the orchestra as well as the score that is being played. The possibilities and difficulties in Professor Whitehead's theory of God cannot here be discussed further.

There are a number of other points that can only be mentioned As there cannot be a duration less than the duration of one actual occasion, durations must be atomic The Space-Time continuum therefore is in no sense primitively given, but is a construction from the relations of actual occasions. What is actual is atomic, continuity is potential. Part IV of the book is devoted to the development of the theory of the system of Space and Time *required by physics. This* is in part a re-statement of the theory of the author's *Principles of Natural Knowledge*. There is one important point to notice. In the course of the argument straight lines are defined without appealing to any process of measurement If the result is correct, that is, if there are no illegitimate implicit assumptions, and if the entities defined have the properties required, it is one of great importance and interest. For a decision we must wait for the scrutiny of the experts.

The actual occasions are microscopic entities The entities with which we are more familiar, electrons, atoms, stones, and men, are all societies of actual occasions of varying degrees of complexity and stability, and aiming at varying types of order. Professor Whitehead rejects the traditional body and mind dualism The mind possesses no characters that are not to be found in embryonic form in the components of the body. What is peculiar about mind is the special organization of the society that is its body, and the high grade of activities that are thereby rendered possible. What is peculiar about the atoms of matter is the great stability of the society that constitutes them, but their stability is a reiterated pattern of becoming, not mere featureless being.

The theory of perception, which he has previously expounded to some extent in his book, *Symbolism*, is remarkably interesting. There are, he considers, two modes of perception, that of "presentational immediacy" which the philosophers have always discussed, and that of "causal efficacy" which they have either ignored or explained away. Memory is the most obvious example of perception in the mode of causal efficacy. This mode of perception as far as it can be described in a sentence is the effect of past events, particularly those of the percipient's own body, on his present mental processes. A plant grows when the sun shines on it, whereby we infer that it perceives the sun in the mode of causal efficacy. A man also sees, and what he sees symbolizes for him the causal factors in his environment where are the sun and the objects he sees, and in his body where are the organs by means of which he sees and feels and moves. The perceptions in the mode of causal efficacy are vague and uncontrollable; the others are controllable, capable of precision, and vivid, hence their importance as symbols for perception in the other mode.

I have dealt (inadequately and at excessive length) with certain aspects of Professor Whitehead's book which seem to me specially important, and that rather by way of exposition than criticism. Indeed, pertinent criticism of so far-reaching a speculative effort is no easy matter, and can only proceed from a thorough understanding, in the absence of which merely to point out verbal inconsistencies is futile. In any case verbal consistency is one of the lesser philosophical virtues.

In conclusion, I would make a comment of a personal nature. There is much in Professor Whitehead's philosophy that appeals strongly to a physiologist. It can hardly be doubted that at least a part cause of this has been his migration to Harvard at a critical period in his philosophical development, and his association there with Professor L. J. Henderson.

A. D. RITCHIE.

Essays on the Natural Origin of the Mind. By C. A. STRONG. (London: Macmillan & Co. 1930. Pp. vii+304. Price 12s.)

In these essays Mr. Strong develops the theory of cognition which (in a form he now regards as imperfect) was set forth in his earlier books, *The Origin of Consciousness* (1918) and *A Theory of Knowledge* (1923). He may also be said to attempt a vindication, with considerable alterations, of the substantial part of the thesis of his *Why the Mind has a Body* (1903). Such persistence concerning a single (although widely ramifying) problem is rare even among the more dogged sort of philosophers, and when it is conjoined, as in the present instance, with a very unusual range of exact knowledge in psychology, science, and metaphysics, as well as with outstanding acuteness, conspicuous ability, and an altogether admirable philosophical style, the result, almost certainly, is an event of genuine importance in the philosophical world. At any rate, it would be a very churlish person who would attempt to deny the signal merits of the present volume. While the title of the book suggests a collection of relatively disconnected essays, the substance of it gives the lie to the title. So far from being desultory, the argument is more closely knit than in most philosophical treatises, and is, in effect, an impressive, orderly, balanced, and thoroughly well-pondered attempt to present the salient features of an important metaphysic.

"The rock on which evolutionary psychology rests," we read on page 273, "is the fact that consciousness arises by natural processes, and that a world in

every sense dark, a purely material world, cannot naturally produce the light of consciousness" This statement, perhaps, serves as well as any other to indicate the general scope of the book. The story of mental evolution is not even begun What is attempted is an analysis of the conditions under which such an evolution is *possible* And what is maintained, speaking roughly, is to the following effect. Assuming, as we may assume, that the physical world is composed of "energy" instead of the old-fashioned "matter," there is no absurdity in the view that all energy may have an inner or sentient side, in short, that it may be soul-dust, and a "psychical flux," as well as a passage of physical events This is not to say, however, that all energy is "conscious," for "consciousness" is a thoroughly ambiguous term connoting (and muddling) the *function* of "awareness" and the *condition* of sentience Sentient soul-dust need not be aware of anything, not even of itself; but if, in certain instances, *e g*, when there is a developed nervous system, a certain concretion of soul-dust (Mr Strong prefers to use C S Peirce's term "synechism") becomes capable of performing the function of awareness, the cognition arises naturally or non-miraculously. The question therefore is: How can the function of awareness be generated from sentient energy?

Awareness (including knowledge-about as well as knowledge by acquaintance) is capable of a very intricate development On the principle, however, that *if the pence are cared for, the pounds will look after themselves*—a rather simple-minded principle, one must admit, even from the point of view of the Treasury—we may expect to reach the core of the question, Mr Strong says, if we concentrate our attention upon the simpler forms of cognition viz, perception (as far as possible "pure" or un-apperceptive) and introspection.

Consider, then, perception. I take Mr. Strong to mean that perception is a "natural" process if (*a*) the soul is a part of nature which (*b*) is capable of exercising the function of awareness On the first point (as I apprehend) his view is that physical nature is spatio-temporal and atomic If the dust in the soul-dust, therefore, is spatio-temporal and atomic, the soul is a part of nature. And Mr. Strong holds that it is His main problem, therefore, is the manner in which the function of awareness may be acquired by this synechism of spatio-temporal, but sentient, atoms

Awareness, we are told, is a unitary act of a soul-pattern pluralistically constituted, but several moments in the unitary act can be distinguished by analysis. Indeed, there are three ingredients of perception (p 92) viz, intuition, intent, and animal faith; and the act of perception is "self-transcendent, a passage not in space and time to the thing intended" (p. 243) "It is, to use a metaphor, a leap of the intellect, a self-transcending arrival at the *object without passage through space or time*" (*p 234*).

How can this be? Mr Strong's answer is that perception is a development from sentience by simplification and projection A part of the soul is simplified into a sign (*cf* the theory of Bradley's *Logic*, although Mr. Strong does not mention Bradley) or abbreviated into a phantasm. Such phantasmal signs (or sense-data) are said to "report" the characters of physical things in perception, but in themselves to be a modification of sentience, although quite distinct from unmodified, signless sentience. And this is the moment of "intuition" in perception It is not, however, the moment of "intent" which (in correct perception) is the way in which we are "transported" to the object itself. And the factor which explains intent (as well as the singleness of the activity of awareness in any given operation) is action We accommodate ourselves in a unitary way and direct our activities towards real things in real space (unless we misperceive them, and even then towards something real).

According to Mr. Strong, the prime error of most theories of perception is to suppose that the reference or intent of perception is towards these phantasms or sense-data. This error, he says, entails one or other of the two great historical fallacies in the philosophy of this subject, viz., phenomenalism (or the view that reality is made up of sensible appearances), and representationism (or the desperate expedient of attempting to give phenomena a transcendent reference contrary to their character and *ex hypothesi* entirely unverifiable). Both these errors must be fought. Phantasms are not what we know in perception, not what we intend in it, not what we apprehend in it. They are but parts of our sentience employed as signs; and the signs signify physical things (in the instance of perception) often truly, although sometimes falsely (and always in part falsely, since colour, *e g.*, is phantasmal and never physical).

While Mr. Strong's statement of his theory is admirably clear, the theory itself is very complicated, and even if I have avoided gross error in this very sketchy account of the theory, it is likely that my omissions have robbed it of much that is necessary for its full intelligibility. Accepting this risk, however, I have to say that I find myself very perplexed. On page 32 it is stated that these phantasms or sense-data, "which really are in the self, cause something to appear outside the self," and on page 36 we are told that "when a portion of sentience, consisting of a multitude of fine parts, prompts to an act, it is simplified and projected, and gives rise to a sense-datum whose characters may coincide (but never do coincide more than partially) with those of the external thing. Such coincidence is possible because the sense-datum is a mere phantasm[!]. If and so far as there is coincidence, the external thing has become an object of awareness. The illusion which caused something sensible to appear as outside the body has brought to light a thing really existing there. An illumination from the body has fallen on this thing, showing it in some respects as it really is."

I find these statements very confusing. As Mr. Strong himself admits (in other places), they are decidedly metaphorical. For the place and space of these phantasms is either purely phantasmal and unreal, or else within the head (so far as I know Mr. Strong never distinguishes, as I submit he should distinguish, between the phantasmal and the real head). I confess, indeed, that this inveterate trick of the phantasms of appearing to be where they are not seems to me to be not at all "natural," and I shall return to what Mr. Strong has to say on the point. It further appears to me that his theory *is* a species of representationism. It is not indeed "representative perception of the usual sort" (*i.e.*, it is not the theory that we cannot directly apprehend anything except simulacra, and have somehow to guess or conjecture physical objects [by faith?] from them). But it does seem to be another species of representationism, for does it not assert that something in ourselves stands for and reports something not in ourselves? The "illumination from the body" never leaves the body. Its reports occur within the body. It cannot really "fall" on anything outside the body. What, then, can the phantasms do but represent? What is the use of the phantasms if they don't represent? Again, when Mr. Strong speaks of "coincidence," what he means is that the *characters* of the phantasms are the *characters* of the real thing. We correctly ascribe (in true perception) certain characters of our own sentience to outside things Our own sentience, however, is existentially distinct from these outside things, because it and they are in different places. Therefore, at the best, there can only be *correspondence* of two *different* things of which (up to a point) the same universals hold. So far as I can see, Mr. Strong's theory requires him to say (and, I think, he does say) two things that to me seem clearly to be false, viz., that perception is a species of predication, and that phantasms are universals

(although they may be used to signify particulars). And why, O why, if Mr. Strong holds that we may *know* external things in perception, should he also hold that "animal faith" is one of the essential ingredients in perception? If there is sight, where is the need for faith?

But let me return to what I suggested was the unnatural trick of the phantasms in appearing where they are not. Mr. Strong says that the phantasms "which really are in the self cause something to appear outside the self because they move us to react as if there were something there" (p. 32 and *passim*). Why? If I move my head to look at an object in front of me, I never suppose that my head parts company from my body and wanders off as a sort of vanguard of action, I never suppose that any bit of my head does so; and I am subject to no illusions of this sort. Why, then, should a bit of my *sentience* (which is literally part of my brain) always appear to do this although it really doesn't? Mr. Strong's theory appears to be that my phantasmal head doesn't generate this illusion, but that my real head, or a bit of it, invariably does. I cannot see anything "natural," or even reasonable, in such a view. Again, the "action" in question (as is admitted) may be only the accommodating of one's eyes in vision. The "reports" in this case are given by kinæsthetic phantasms (which don't appear to be outside the body, although they are directed towards and in that sense "intend" what is outside the body). Therefore (1) phantasms needn't appear to be outside the body, and yet (2) might have all the unity of intent that appears to be required by "action."

I find that I have dwelt so long upon perception (although I have dealt only with a few aspects of Mr. Strong's theory of that subject) that I have no space for many other equally important parts of his theory, *e.g.*, his account of introspection (where introjection takes the place of projection, but where the "internal" sense is otherwise properly regarded as similar to the "external"), his fuller account of the soul and of the soul-body and mind-body relationships, or his illuminating account of his differences from, and his agreements with, William James, in his concluding chapter. Perhaps, however, I may be pardoned if I refer very briefly to some of the things he says about our knowledge of the past.

On page 209 Mr. Strong congratulates himself heartily upon having shown that "the absolute distinctness in nature of past, present, and future does not necessitate for their apprehension a similar distinctness of ultimate powers of the mind," and on page 215 he says that "the power of looking back is real, but it is not magical, since it depends on a present response called forth by present sensations."

So far as I know, nobody ever denied that, when we remember, we remember *now*, and if any philosophers ever held that, when we remember, we can *go* back to the past, and become our former selves, they were quite certainly wrong. What, then, is the "magic" that is complained of? On page 206 it appears to be "an ultimate power of the mind to view the past and the future." Therefore, I suppose, we have, according to Mr. Strong, either a power of "looking back" to the past without "viewing" it, or else a power of "looking back" *and* "viewing" it, which is nevertheless not "ultimate." The alternative is possibly interesting, but (I should say) quite certainly perplexing. When Mr. Strong, however, proceeds to argue (as I understand him to do) that there is no relevant difference between our expectation of the future and our memory of the past except the different adjustment of our bodies with respect to action, it appears to me that he is denying something very real indeed, and that his reference to action isn't nearly so satisfactory as he thinks it is. Let me mention one point only. From the standpoint of action the past is, so to say, *dismissed*, although it may teach us, we think, what to do if there are

signs of a recurrence of what formerly happened. Incidentally this implies that expectation itself depends principally, if not entirely, upon memory. But let us pass that particular point. Surely the past, to our knowledge, is a great deal more than something dismissed. There is an order in it, and a considerable power of discerning, without any special reference to future action, what was dismissed before something else was dismissed The fact of being over and done with is nothing like the whole of what is implied in memory. From the standpoint of action the reverse seems the case. The man who had to defend himself for making a proposal of marriage within a week of his first wife's death stated, quite correctly, that she was as dead as she ever would be. This simple consideration, however, scarcely seems a sufficient account of what is at least the strong *prima facie* distinction between our acquaintance with the past and our mere conjectures concerning the future.

JOHN LAIRD.

A Modern Introduction to Logic. By L. SUSAN STEBBING, M.A., Reader in Philosophy in the University of London. (London: Methuen & Co., Ltd. 1930. Pp. xviii. + 505. Price 15s.)

The publication of Miss Stebbing's *Modern Introduction to Logic* is an important event. Here for the first time the general reader has an opportunity of studying recent developments of logical theory without being compelled to make his way through a mass of books and of articles scattered through the journals. These developments have been mainly due, in this country, to Mr. Russell, Professors Whitehead and Moore, Mr. Johnson and Dr. Broad, all associated with Cambridge; so that we can say that Miss Stebbing has done for Cambridge thought what Mr. Joseph's *Introduction to Logic* did for Oxford thought. And we may venture to hope that her book will have as wide a public as Mr. Joseph's has had and deservedly continues to have. A thorough understanding of these two volumes should form the indispensable discipline of thought for the student who desires to cope adequately with the developments of modern philosophy. For many years I have regarded Mr. Joseph's book not only as the best introduction to Logic, but as the best introduction to Philosophy, that existed in English, both for the serious general reader and for the University student; with the reservation that Mr. Joseph left unrepresented just that whole school of thought whose views Miss Stebbing expounds in this book. Whoever reads the two, will now have ample material for carrying on the debate with himself on fundamental problems which is the essential activity of philosophising.

The books falls into three parts. The first part deals with the analysis of propositions, and is concerned largely with the nature of symbols, and with the exploration of propositional forms and of their formal properties and interrelations. An account of the Aristotelian logic is here included. As Miss Stebbing says, "Some knowledge of Aristotle's logical doctrines ought to form part of the equipment of an educated man. These doctrines and the terminology in which they are expressed have entered so deeply into the structure of Western thought and language that an understanding of them is necessary for the proper appreciation of much great literature as well as of Western philosophy. Certainly the student who intends to read philosophy would be seriously hampered in his understanding of the great metaphysical systems were he completely ignorant of Aristotelian logic." The modern developments of logic are thus seen as a further and more adequate analysis of the problems dealt with in the Aristotelian logic. Miss Stebbing goes on: "It has not been my

intention to take the student very far into mathematical logic, but only to enable him to realize that the principles of symbolic logic are not peculiar to a special kind of study, but are principles exemplified in everyday reflective thinking no less than in mathematical deductions I have not sought to write an *Introduction to symbolic logic*. my purpose has been to emphasize the connexion between Aristotelian logic and symbolic logic "

The second part deals with the problems traditionally grouped under the general head of induction, and connected with the nature and methods of scientific inquiry What is meant by a "science," a "cause," a "hypothesis,' a "theory", how causes are sought for in the experimental sciences, how far the historical sciences can discover causes, such are some of the major questions discussed, and on which Miss Stebbing has many wise things to say, expressed with a clarity and precision that continually compel admiration. The general reader is likely to turn to this part of the book first, and I am quite ready to encourage him to do so, the greater part of it can be understood without a study of Part I, although Part I will gradually familiarize him with considerations and distinctions which he will meet in Part II under more complicated conditions. In this part some account is given of the general nature of statistical investigation, and of the theory of probability.

Part III completes the study by a treatment of the theory of definition, of abstraction and generalization, and of the characteristics of logical thinking; with a final chapter devoted to a sketch of the historical development of logic.

The general usefulness of the book is increased by an admirable index, by a select bibliography of books and papers, and by a note indicating those portions of the book which are specially adapted for a first reading.

In a book which involves symbols, a few misprints are to be expected on a first reading, however carefully the proof correcting may have been done. But I have noticed only two (p. 134, l 13, and p 143, l. 14), which the reader will be able to correct for himself, and one, which I mention because it may cause some difficulty. This occurs on p 185, where in the definition of the logical product of two classes the last phrase should read. "and including every class *included in* each," and in the definition of the logical sum of two classes the last phrase should read, "and included in every class *including* each."

The book as a whole is a wonderful achievement of clear thinking, wide scholarship, and adequate expression.

L J. Russell.

Immanuel Kant's Critique of Pure Reason. Translated by Norman Kemp Smith, Professor of Logic and Metaphysics in the University of Edinburgh. (London: Macmillan & Co. 1929. Pp. xiii + 681. Price 25s. net.)

Kant's greatest work has certainly had to abide its time for an adequate version of it to appear in the English language. The *Kritik der reinen Vernunft* was first published in 1781. Within the course of twelve years or so its contents were being expounded in all the leading universities of Germany. Kiesewetter in Berlin, Born and Heydenreich in Leipzig, Jakob in Halle, Reinhold in Jena, Buhle in Gottingen, Tennemann in Marburg, and many others, were making it the basis of their philosophical teaching, while theologians such as Tieftrunk and Staudlin were applying its principles to Christian doctrine and morality. In over three hundred publications its tenets had either been inculcated or criticized Young men were flocking to Königsberg to sit at the feet of the renowned author. Yet at that time Paley's *Moral Philosophy*, Bentham's

Principles of Morals and Legislation, the Works of Thomas Reid, and Dugald Stewart's Lectures, furnished the philosophical nutriment of English students, and in our universities the Critical system was hardly so much as known by name It is true that in 1795 an enthusiast, F. A. Nitzsch, made an effort to introduce the Kantian philosophy into England, and gave a course of lectures in London, but they seem to have occasioned more amusement than enlightenment. Then in 1798 Dr. A. F. M. Willich published two volumes of Kant's *Essays and Treatises*, containing very defective translations of the shorter writings and of the *Metaphysic of Morals*, and these again naturally failed to produce any impression. It was not until 1838, more than fifty years after its appearance, and thirty-four years after Kant's death, that a translation of the *Critique of Pure Reason* was published, when James Mill's *Analysis of the Phenomena of the Human Mind* was the latest novelty in the field of philosophy. The translation was that of J. Haywood It was an unsatisfactory performance Mr. Haywood's acquaintance with the German language was obviously far from extensive, and his philosophical equipment was quite unequal to the task he had undertaken. Seventeen years later, in 1855, there appeared the translation which has since been widely used of Professor J. M. D. Meiklejohn It was a decided improvement upon Haywood's, and made by a man who had at least attempted to grasp the main principles of the Critical philosophy. But Meiklejohn was hampered by an insufficient knowledge of German idiom and of its use of adverbs and particles, and he repeatedly comes to grief in his effort to express the meaning of Kant's complicated sentences.

About the middle of the last century German speculation began to attract attention in this country. In 1865, the year in which J. S. Mill's *Examination of Hamilton's Philosophy* appeared, Hutchison Stirling's *Secret of Hegel* broke the ground. It was followed in 1874 by T. H. Green's massive *Introduction to Hume*, in 1877 by Edward Caird's stimulating *Critical Account of the Philosophy of Kant*, in 1879 by Robert Adamson's masterly little volume on Kant, and by numerous other works both of exposition and of criticism. So that by the time of the centenary in 1881 of the first publication of the *Critique* there were in England many earnest and strenuous students of the Kantian system. In that year Hutchison Stirling's *Textbook to Kant* and Max Müller's Translation of the *Critique* saw the light. The former contained a translation, based on the second edition of 1787, of the Introduction, the Æsthetic, and a large part of the Analytic. *So far as it went, this translation, although somewhat free* and unconventional, was admirable, the work of a scholar and thinker whose knowledge of German idiom was no less thorough than his insight into the subtleties of Kant's reflexion. Max Müller's Translation of the whole of the *Critique* was based unfortunately upon the first edition, although translations of the rewritten portions of the second edition were added in supplements. Max Müller had, of course, an intimate knowledge of the German language, and he was also an elegant writer of English. But despite his enthusiasm for Kant and the *Critique*, his grasp of the fundamental principles of the Kantian philosophy was in no sense profound, and he was far from being able to reproduce in his own thought the thoughts of his author. In consequence, his translation abounds with inaccuracies, and some of its paragraphs are simply unintelligible. It is true the appalling blunder of prefixing Noiré's sketch of all previous philosophy, which reads, as Adamson put it, like history in a fever, and produces an impression of whirling confusion, was remedied in the subsequent one-volume edition of 1897. Yet, even so, the work left much to be desired as the English version of a philosophical classic that more than any other has influenced the trend of modern culture.

Since the centenary wellnigh another half-century has gone by; and at length we are able to welcome the appearance of a really scholarly and effective translation of the great *Critique* Professor Kemp Smith took up the task after having fully equipped himself for it. He had been engaged for years upon a minute and exhaustive study of the text of the *Critique*, and he had made himself familiar with the immense literature—expository, critical, and controversial—which has gathered round it The first fruits of his labour were given to the world in the valuable *Commentary* published in 1918 (of which a second edition was issued in 1923), now an indispensable volume in the library of every student of the Critical philosophy The present translation was, he tells us, begun in 1913, when he was completing the *Commentary*, but for several reasons had to be laid aside, and it was not until 1927 that he found leisure to revise what he had done and to continue it Meanwhile, Raymund Schmidt's important revised text of the two editions of the *Kritik*, together with the *apparatus criticus* which he provided, had appeared in 1926, and thereby Professor Kemp Smith's labours were materially lightened. The translation follows the text of the second edition, the form in which Kant himself determined that his work should finally go down to posterity. Except in two cases, translations of the varying or omitted passages of the first edition are given at the foot of the pages The exceptions are the two long sections which were completely recast in the second edition—those headed *The Transcendental Deduction of the Categories* and *The Paralogisms of Pure Reason.* The two versions are, in these cases, given in the main text, that of the second edition following immediately upon that of the first. This arrangement is clearly the best that could have been adopted As is pointed out in the translator's Preface, the first edition versions are here requisite for an adequate understanding of those which were substituted for them, and it is now possible for the student conveniently to work at them in conjunction with one another. He will also find it extremely helpful to have throughout the original pagings of both the first and second editions given on the margins

To have compared with the German text all the pages of Professor Kemp Smith's translation is more than I can, at present, claim to have done But I have compared a good many of the specially crucial sections, and in every instance I have been impressed by the unerring penetration and dexterity which have guided the translator in turning Kant's sentences into clear and lucid English Undoubtedly Kant's German makes difficult reading, although I incline to believe that the difficulty has not seldom been exaggerated. Leaving out of account the abstruseness of much of the subject-matter itself, so large an amount is frequently crowded into a single sentence, that not only has undue use to be made of parentheses, but particles, pronouns, and genders have to be dragged into requisition in order to mark the connexions between the parts of the sentence. A translator is bound to split up the more involved and complex sentences into simpler sentences, and Professor Kemp Smith has been singularly skilful in accomplishing this without doing violence to either the sequence of thought or the shades of meaning of the original. As an example, reference may be made to the long sentence occupying the last half of the page A 371, where, in discussing the fourth Paralogism, Kant contrasts empirical realism with what he calls transcendental realism Max Muller, too, broke this sentence up into shorter ones, but in such a way that the trend of Kant's reasoning was entirely lost, whereas Professor Kemp Smith admirably contrives to preserve it.

"A good translator of Kant," Adamson once wrote, "must be at the same time a good interpreter of Kant." Professor Kemp Smith has amply estab-

lished his competence in the latter capacity. But Adamson went on to say that, while translation with intelligence is impossible unless the precise significance of each sentence, with its bearing on the whole of which it forms part, is clear to the mind of the translator, interpretation must never be allowed to take the place of translation. I have found no instance in which Professor Kemp Smith has infringed the rule thus laid down. In his *Commentary* he sometimes propounded views of Kant's actual doctrine from which other Kantian students would dissent. For example, I have elsewhere contended that in the more important passages in which the notion of 'transcendental object' is developed this notion is not identified, as Professor Kemp Smith took it to be, with the notion of 'thing in itself,' but is rather contrasted with it. Nevertheless, I have no objection whatsoever to raise to his translation of the relevant sections (A 104–110 and 250–251). It seems to me perfectly faithful and accurate, and not in the slightest degree twisted in favour of a particular interpretation.

In regard to the rendering of Kant's technical terms, Professor Kemp Smith will be prepared to find that opinions differ. Personally, I regret that he has adhered to the term 'representation' as the equivalent of the term *Vorstellung*. It is true that Kant himself equates *Vorstellung* with the Latin *repræsentatio*; but then the Latin term does not carry with it the implications of its English substitute. It is true, also, that there is in English the corresponding verb 'to represent' by which *vorstellen* can then be consistently translated; but the verb occurs comparatively seldom in the *Kritik*, and for it in any case a suitable rendering would have been forthcoming. On the other hand, the term *Vorstellung* signified for Kant almost exactly what the term 'idea' signified for Locke ("whatsoever is the object of the understanding when a man thinks"), and I cannot help feeling that this would have been the more appropriate word to use, in which case a capital letter would have been sufficient to differentiate the *Ideen* of the Dialectic (a device which Professor Kemp Smith himself adopted in the *Commentary*). Otherwise, the term 'presentation' would, it seems to me, have been preferable. Again, I do not like the phrase 'modes of knowledge' as the translation of the plural *Erkenntnisse*. How does a 'mode of knowledge,' *eine Erkenntnis* (A 19, B 33), differ from a 'kind of knowledge,' *Art von Erkenntnis* (B 21)? In some passages, doubtless, it does not differ (see, for instance, A 56, B 80), but in others it does; and, in either case, the word 'mode' appears to me apt to mislead. Often, I think, the plural, *Erkenntnisse*, may quite well be translated by 'knowledge,' in the singular (as, for instance, in B 109); and in more places than one Professor Kemp Smith does thus translate it (*e. g.* B 137). And where that is not possible, probably the least objectionable word to use would be 'cognitions.'

But upon points such as these there is not likely to be agreement. There will, however, be agreement in describing the translation as, on the whole, a striking and unqualified success. Our stubborn speech lends itself not readily to conveying the subtleties of philosophical thought, although, I believe, there are few, if any, shades of meaning it is incapable of expressing. Yet it has its own ways of expressing them, and its ways are not the ways of the German tongue. Professor Kemp Smith has recognized this, and has not attempted to render literally the innumerable particles which in the original serve a purpose no literal translation of them could serve. It is a great achievement to have given us an English version of the *Critique* which does not read like a translation. The translator has already contributed much to our philosophical literature, but no contribution could well be more acceptable than this conscientious and trustworthy presentation of Kant's classical work. He is to be

heartily congratulated on the completion of what must have been a laborious and delicate task, and he has earned the sincere gratitude of every English student of the Critical philosophy.

G. DAWES HICKS.

Coleridge as Philosopher By JOHN H MUIRHEAD, M A , LL D (London Allen & Unwin Ltd ; New York. The Macmillan Company 1930. Pp. 287 Price 12s 6d)

This book, the latest addition to the Library of Philosophy, will be warmly welcomed alike by students of philosophy and lovers of Coleridge The task which Professor Muirhead has undertaken is to show, first, that Coleridge as a philosopher has retained stronger claims to originality of thought than are generally conceded to him, and, secondly, that his actual written work comes much nearer, both in range and coherence, to a complete body of doctrine than is usually supposed And that Professor Muirhead has in both instances sustained his contention no reader of this admirable exposition is likely to deny.

There are various reasons why for so long a period Coleridge's philosophy has lain under a cloud. To many who know him primarily as a poet he has seemed, at a crucial moment in his spiritual pilgrimage, to have taken the wrong turning; and those who have followed his further progress have been discouraged by many seeming aberrations, and by his failure to provide them with more than partial glimpses of the goal. Others, again, have judged his theories in the light of his actual conduct of life, and have either been repelled by the apparent discrepancies or have rejected his philosophy as a mere device for the comfort of his soul. Finally, the disclosures of Ferrier and others about the middle of last century as to the extent of his verbal borrowings from the German philosophers, especially from Schelling, have served more than any other cause to discredit him as a teacher whose work would repay study

On all these counts, as Professor Muirhead shows, Coleridge has been superficially and therefore unjustly judged That the philosopher in him stifled the poet is not for one moment borne out by the facts Coleridge was from the first a philosopher, in the sense that he was an ardent and indefatigable seeker after ultimate truth; and it is questionable whether it was not natural to his genius to seek and present that truth directly rather than symbolically, by way of the speculative rather than the imaginative reason His mind, as Wordsworth said of him even at Cambridge, was one "debarred from nature's living images" by its "self-created sustenance"; and the poems of his brief period of intense creative energy owe their greatness to other qualities than power of presenting the concrete world *sub specie æternitatis*. And if, as Professor Muirhead reminds us, it was the circumstances of his life and the tyranny of the "fatal drug" which, by robbing him of his inward joy, deadened his imaginative powers, it is doubtful whether those powers, even if they had been kept alive, would have served him as the instrument of the divine vision. It was in Wordsworth, after all, that Coleridge himself saw the true type of the philosophic poet.

With the charges of plagiarism, of lack of originality and of real speculative power, Professor Muirhead does not deal specifically in detail; but his whole book is a refutation of them By a thorough and judicious study of all the unpublished material, including the numerous marginal notes, he has supplemented the knowledge gained from the published works and shown us that Coleridge's system, if lacking in finality and coherent exposition, had never-

theless been conceived as a whole and actually to a large extent worked out; and that, however much he may have been indebted to the German thinkers for stimulation and guidance, he challenged and discarded their ideas wherever they failed to satisfy his spiritual demands. The contention of Ferrier that "in every instance where we meet with remarks more than usually profound, bearing upon the higher metaphysics, it is Schelling and not Coleridge whom we are reading," is disproved time and again by the marginal comments on Schelling's writings. To say this is not, of course, to excuse Coleridge for his habit or method of verbatim borrowing.

Coleridge is further cleared in this book of the aspersion that his philosophy was designed merely to comfort his soul, or to square with the dogmas of orthodox Christianity. "Speculative truth," says Professor Muirhead, "was ever his absorbing interest"; and if his final views were coloured by his personal temperament and aspirations, and by the teaching of his experience, is not this largely true of every philosophical system since the world began? Nor is it very consistent in the same critics to accuse him of depending too much upon the thoughts of others, and of betraying too great a subjectivity in his outlook.

The chief value of Professor Muirhead's book, however, does not lie in the refutation of false or exaggerated charges (important as this is), but in his exposition and evaluation of Coleridge's philosophic doctrine. Tracing this with rare insight and sympathy through all departments of philosophic thought, he shows how in each of them Coleridge sought for a revelation of first principles, and found this revelation in the idea of an Absolute that is conceived as a Personal Will. This doctrine, as we should expect, finds its culminating expression in Coleridge's philosophy of religion, for as Coleridge himself puts it, in religion he saw "the flower and crowning blossom of the plant." Nothing is more interesting, and nothing perhaps more vital, in Coleridge's whole teaching than his development of the conception of personality as something which, so far from being dependent on barriers and limitations, is strengthened just in proportion as it breaks these down, and which therefore is not merely compatible with, but essential to the union of the finite and infinite. This idea underlies his explanation of religious, of moral, and of æsthetic experience. On the last-named subject Coleridge has been less explicit than on the former two, and the abrupt termination of the disquisition in the *Biographia Literaria* has been interpreted by his critics with varying degrees of sympathy. Whatever its cause may have been, no reader of Professor Muirhead's work will be inclined to accept an earlier critic's suggestion that "Coleridge had to stop because his original (in this case Schelling) did not help him out." If the argument was dropped, it was because Coleridge was at this time beginning to part company with Schelling, and to feel that he must work out his salvation alone; and because, as he himself stated later, "it contains the fragments of the truth, but is not fully thought out." Had he revised it later in the light of his fuller vision, he would no doubt have treated the imaginative activity as another manifestation of the finite personal will in its endeavour to transcend its limitations and realize its unity with the Infinite.

In his final chapter Professor Muirhead has given his considered estimate of the import of Coleridge's philosophic teaching. We are shown that Coleridge may in many ways be justly regarded as the interpreter of his age to itself; and that while his ideas were, for various reasons, looked on coldly by the succeeding generations of thinkers, they have in later times reasserted themselves, and are reproduced in much that is most characteristic of modern thought.

It would, however, be wholly wrong to regard Professor Muirhead's exposition as no more than an apologia He shows himself as impartial in blame as in praise, and lays his finger with unerring insight upon the joints in Coleridge's philosophic armour In the end, if this stimulative study leaves us with a heightened sense of regret that Coleridge did not do full justice to his wonderful intellectual gifts, we are compensated by a fuller realization of his power of self-conquest and of the high value of his actual achievement.

J. SHAWCROSS

Studies in Philosophy and Psychology By G F. STOUT, M A , LL D , D Litt. (London, Macmillan and Co 1930. Pp xiii + 408 Price, 15s)

All admirers and friends of Professor Stout, which is as much as to say, all English-speaking people who care for good philosophy and good psychology, will be heartily glad to see these essays, most of which will have been already familiar to them, collected into a permanent volume. It would not be altogether proper in a personal friend and a very recent colleague of the distinguished author to attempt much criticism of the volume, still less to enter into controversy on the issues it raises. Even were it proper, I should not propose to do so, and this for several reasons Professor Stout has a way of packing so much into an essay that it would be hard to discuss any of his problems as they ought to be discussed without writing a series of disquisitions of equal length with his own Moreover, if I may say so without forgetting my own remarks before the ink is dry on them, his anxiety to reach finality in his views, and his consequent desire to incorporate in his own position all that is true in those of his antagonists do not make for ready and rapid comprehension It would be hard to controvert any of the positions taken up in those of these essays which, in view of their date, may be presumed to be still maintained by the writer, without an uneasy feeling that the reply might be that one's objection had already been considered and its point, so far as it has one, already allowed for in the text itself And finally, it is clear, I think, from the *Preface* that on what is, after all, the central topic of the most important essays, the nature of the external world and the relation of the knowing subject to it, Professor Stout's views are not yet fully disclosed, even in the latest written of these papers. The volume, read in the chronological order of its parts, reveals, as the Preface explains, a steady development from a generally Leibnizian philosophy to one of a different type But it is hard to gather much more about the character of the newer doctrine than is told in the *Preface* itself, viz. that it has no place for a knowing subject which is not the *embodied* self, and that it insists that matter and mind are, though inseparable, "essentially and ultimately distinct." On the face of it, this looks like a change from Leibnizianism to something like Spinozism, but probably we must be content to wait a little longer for the appearance of Professor Stout's long-expected Gifford Lectures before it is safe to assume that one has really understood his final doctrine. In the *Preface* itself a tantalizing anticipation of the fuller disclosure is made when we are told that the "sensible appearance" of an external object is not, as Professor Stout used to maintain some while ago, mental, it is material, though not physical. No light is thrown in the context on the precise nature of the distinction here drawn between the material and the physical, and I do not think there is anything in any of the essays which explains the *dictum* We must therefore continue to wait and hope. When the Giffords do appear, one may hope to have fuller light on the reasons which have led Professor Stout to dissatisfaction with the general

standpoint of Ward, which perhaps still appeals to others, as I confess it does to me. At present I do not feel able to follow except in the vaguest way the argument which is supposed to compel us to give up altogether "Ward's conception of a pure ego as a single principle." I try, indeed, to put together what is said in the essay on *Ward as a Psychologist* with the utterances of that on *Fundamental Points in Theory of Knowledge*, where I find that the "unity of the self" is apparently accounted for by the unity and identity of the (total) object it knows. But I do not feel my difficulties wholly removed. Thus I read that the self which asks a question and the self which answers it are identical "inasmuch as the question asked is identified with the question answered." I think to myself, probably foolishly enough, of the case where B furnishes the answer to a question propounded by A, and I am puzzled. I conceive I may be told that I must think of the *whole* question asked by A of his ultimate object (the Universe), and that this is no less than A's total attitude to life, which, no doubt, is never the same with B's. Once more, I do not see that the unity of A as a "continuant self" has been explained by bringing in the unity of the Universe. Of course, I admit that if there were not a universe which has a unity, we should all promptly go mad and lose our unity of selfhood. The unity of the subject and that of the object, as it seems to me, imply one another: they are, if you like to say so, two sides of the same great fact. But I still do not see how the one side can be derived from the other, and am driven to suspect that after all I have misunderstood Professor Stout's doctrine.

I find myself equally uncertain about the manful attempt made in the essay last named to deal with a problem which has always been very prominent in Professor Stout's writing, that of the perception of the external world. Professor Stout is there attempting to give a definite answer to the question whether or not his own view identifies "presentations," or *sensa*, with qualities of physical bodies. As it is put in the words of a correspondent, when one looks at a yellow inkstand, does one, according to Professor Stout, see the yellow which is a quality of the brass inkstand, or are there two yellows, one which is a permanent quality of the inkstand, and another which is a "momentary psychical fact"? It is made sufficiently clear that in intention Professor Stout means to repudiate any doctrine of "representative perception." He means to say that we actually see the yellow which is a quality of the inkstand. But it is equally clear that he means also to say that there *is* a "presentation-yellow" which is not identical with the "quality yellow," and apparently also that *this* yellow is seen. (He would not, I think, be content to say that, like the sensible species of Thomism, the presentation is something not itself seen, by the instrumentality of which the object-yellow is seen.) Now this position leads to what is stated as a dilemma. If the two yellows are quite distinct, we never see the yellow of the inkstand at all, and this statement is absurd. But if there is just one yellow, it is argued, we must say that, since the presentation-yellow differs with illumination, physical condition of the beholder, and so on, the inkstand has an indefinite multiplicity of shades of colour, and this is absurd too. Professor Stout then proceeds to give his own solution of the question, which is briefly that what any percipient sees at any moment is the "presentation-yellow," but the "presentation-yellow" *as conditioned*. The various "presentation-yellows" all seen *as conditioned* by all the different observers, or by the same observer under different conditions, somehow make up the quality-yellow of the inkstand.

I cannot help wondering whether the correspondent found the answer completely satisfactory. I have an uneasy feeling that it is an attempt to combine the advantages of a representative theory with the advantages of a

theory of direct non-representative perception in one statement, and that it is not wholly a success. If it really is absurd to say that the inkstand really has a whole series of shades of colours—and I am not sure that it is—is the absurdity removed when one says that "the single objective yellow *looks* different according to the varying circumstances under which it is perceived?" If one is determined to have a non-representative theory of perception, and I think the determination sound, may one not have to be ready to pay a higher price for it than Professor Stout apparently wishes to give?

A E Taylor.

The Philosophy of a Biologist By Sir Leonard Hill, F R S (London: Edward Arnold & Co 1930. Pp viii + 88 Price 3s 6d. net)

This little book is an expansion of Sir Leonard Hill's article in a recent number of the *Journal of Philosophical Studies* It states a thesis and a summary of the relevant facts of physics and biology on which the thesis is based These results are stated so clearly and simply that one does wish that the author would expand them into a large volume dealing with the recent advances of physiology. After all, it is the physiology of the medical schools that always has been, and is, at the growing point of biological investigation, and its results are far less familiar to the laymen than are those of physics. And, obviously, physiological results are just as essential as physical ones in any attempt to construct a natural-philosophy.

The thesis is stated in a few sentences Science gives us the conception of an eternal, infinite, and unknowable power, and this conception is equivalent to our purest notions of God, that is, our notions when stripped of all superstition and dogma. The mystery of this conception of universal power is equally great whether we study it in stars and atoms, chemical reactions, or in the cerebral physiology of the higher animals. There is body and soul in the animal, but the soul, being sustained by the body, perishes when somatic death occurs. Yet the power behind body and soul is itself imperishable, though its manifestations are fugitive. There is immortality, which is impersonal; on the other hand, what we call consciousness, personality, character, and temperament, all end with bodily death. It may appear that something transcends the body and may be communicated to the offspring "by heredity," but this is only because the individual animal body has two components—a somatic and a germinal one. The offspring is, of course, simply the development of the germinal component. Such a notion of personal mortality is probably held by most biologists; it is very difficult to see what other interpretation can be given to physiological results It does not, of course, preclude some notion of impersonal immortality. There is evolution on the inorganic side: evolution of matter, of stars, of chemical elements There is organic evolution. Evolution, wherever it occurs, is a manifestation of the universal power.

It is only on the physical side that one ventures to criticize the philosophy. If the "power behind the sun" is God, and if it is that power, or energy, which we study as physicists, then there is a twilight of the Gods. If the power that sustains the universe is that energy that physicists study, then the universe is not self-sufficient. If there is physical or inorganic evolution, it differs in sign, or direction, from organic evolution.

It is only in the simplest physical-chemical systems that we can accurately study what we call power. In some complex of laboratory materials reactions proceed and come to an end. What we call "chemical affinity" only implies

the degradation of energy, and a chemical reaction goes on until the available energy represented by the reagents falls to its minimal value in the physical conditions. When the reaction has ceased, so much available energy has become degraded or dissipated: there has been made "an indelible imprint on the progress of events *somewhere or other* in the universe considered as a whole," for in the universe, as we know it, the degradation of available energy, which is the price that is paid for all physical happenings, cannot be undone. Power, then, which is available energy, we take it, is not eternal. The universe is not self-sufficient, and everything that happens in it inevitably robs it of power. It is true that energy is conserved, but only in its unavailable form as chaotic radiation of low frequency. The universe, as its available energy degrades, loses power and passes from its anterior cosmic state towards ultimate chaos. It should be noted that energy-changes can accurately be traced only in very simple systems; still, all that we know of stars, atoms, and living organisms is consistent with the belief that what happens there is essentially the same as happens in our simple, experimental systems.

There is inorganic evolution—in a way. Nebulæ evolve into stellar galaxies, stars evolve so that planetary systems originate, the lithosphere of our earth has evolved. But this result we can trace from such processes. The statistical probability of the parts of the inorganic evolving system increases, and the entropy, which is proportional to the logarithm of the probability, increases. This is not the case when an organic system of things evolves, for the statistical *improbability* of the arrangements and distributions of the things becomes greater in the course of the evolutionary process and entropy *locally* decreases. Therefore organic evolution displays a direction of processes that is the opposite of that of inorganic evolution.

We were often told, in the older books, that somewhere in the universe the second law of thermodynamics (the entropy-increase law) must be evaded, otherwise maximal entropy must have been already attained and universal happening must have ceased. Millikan and Lodge now suggest that somewhere in interstellar space scattered star radiation reconstitutes atoms by the action on it of very high-frequency radiation. This is as if the universe, in running down, also winds itself up, and doubtless there is inconsistency in the notions; there is really no support for them in the present confusion of cosmic physics.

Yet there is nothing inconceivable in a reversal of the entropy-law: Boltzmann actually suggested this in his conception of entropic and dysentropic phases in the universe, but was so repelled by the incredible statistical improbability of the reversal that he gave up the problem; all the same, the incredible improbability came from the extension of the gas-laws to the universe. But let us suppose that somehow or other the progress of things in the universe may reverse itself, then a run-down chaos may "reorganize" itself, with an unthinkably great blaze of power, as a new cosmos. What the "reversal" means we have, of course, no idea. It may be "the Finger of God stirring up the ether," or simply that reversal which Boltzmann found to be physically conceivable but only incredibly improbable.

JAS. JOHNSTONE.

A Pragmatist Theory of Truth and Reality. By SAMUEL S. S. BROWNE, B.Litt., (U.S.A.: Princeton University Press. 1930. Pp. 93. Price 9s)

This Essay, which appears to have originated as a B.Litt. thesis in the University of Oxford, may be recommended as a sound and careful, if

somewhat elementary, study of the relation between the pragmatist conceptions of truth and reality. It is written in clear and lucid language, and endeavours conscientiously to state the current objections to Pragmatism as well as the case in favour of it In the end Mr Browne distinguishes between the pragmatist treatment of truth and of reality as follows (p 93) "To be is to have been constructed epistemologically and thus made into an entity or substance To be real is to be an entity of which the epistemological construction is of service in the satisfaction of a need or the solution of a problem " But I think he should have added that the "truth" and the "reality" so reached are in both cases only *claims* to truth and reality, and that the pragmatic verification of such claims is the unending concern of all the sciences An earlier passage also, on p 29, might be bettered Mr Browne declares, truly enough, that ' truth and falsity are not qualities of verbal sentences or propositions", but he goes on to say that "the only sort of entity which can properly be said to be true or false is an idea or conception " Now "idea" is a notoriously ambiguous word, and the psychology of "conception" is very disputable, and is not considered by him. So one does not know whether he means to *deny* the doctrine that truth and falsity are strictly qualities of *judgments* alone, and that their application to "conceptions" and "propositions" is a regrettable lapse into laxity, or whether he has merely overlooked the possibility of this interpretation He can undoubtedly appeal to James in support of his terminology, but James was always willing to accept the language of his opponents and avowedly entertained too low an opinion of (intellectualist) "logic" to trouble to correct it.

F. C S. SCHILLER.

Eidetic Imagery and Typological Methods of Investigation, By E R JAENSCH. Translated by Oscar Oeser, D Phil (London Kegan Paul, Trench, Trubner & Co , Ltd 1930 pp 136. Price 7s 6d net)

This volume is obviously a translation, and, both for that reason and because of a certain patchiness in the method of presentation of its material, is not altogether easy to read The book consists of three parts, the third being an addition to the original Eidetik specially written by Professor Jaensch for the present English edition This deals with recent developments of eidetic theory with reference to the general psychology of the senses and to 'typology,' or the grouping of individuals into more or less clearly defined types of personality The second part is a four-page chapter in which the dual method of 'naturalism' and 'humanism' is defended as appropriate in psychological investigation Experimental work is necessary, but treatment of the individual as a whole cannot be dispensed with There is also a short appendix in which the development of perception and the bases of our conception of reality are discussed Here also some of the arguments against attributing general importance to the eidetic theory are met. The most important part, however, is the first, in which the occurrence of eidetic imagery is discussed and far reaching consequences inferred from it After describing the phenomena of eidetic or *quasi*-perceptual images, as experiences intermediate between actual sensations and memory images, Jaensch elaborates the methods by which these phenomena may be investigated and proceeds to distinguish types of persons according to characteristic differences in the eidetic images themselves Thus, while some eidetic images approximate to after-sensations, others are more like memory images. Pure types, however, are rarely found,

most individuals exhibiting an 'amalgam' of the two. Jaensch claims that the phenomena are observable in most, if not indeed in all, children before puberty, and considers their occurrence to be an indication of a phase of development through which they normally pass. This phase can be helped or hindered by the kind of school teaching they get. The several types are further related to degrees of mental integration as well as to well-known clinical syndromes. Thus there is the 'T,' or tetanoid, type, and the 'B', or Basedowoid, type. The importance of this division into types lies, not so much in the mere distinction of the imagery, as in the relation of the different kinds of eidetic images to totally different types of mind and even of somatic characteristics. The B-type often indicates an artistic temperament, a slightly enlarged thyroid gland, an intense reaction to mental stimuli, particularly in the sympathetic nervous system; whereas the T-type is more reponsive to environmental stimuli than to inner ones. Though related to the syndromes of disease, however, the symptoms are held to be merely normal physiological characteristics of a certain stage of youthful development, in which integration is secured between the higher mental processes involved in perception and the sensations which are incorporated into percepts. In this view, instead of percepts being formed by the association of sensations, they are held to be originally very like memory-images; and the sensations themselves are regarded as being the ideal, though never attained, end-point of the cognitional process. The inference is to a strong nativistic element in perception; and, indeed, the claim is made that the doctrines of Kant in this respect "receive an empirical foundation through our researches." But the application of the extended eidetic theory is not only to philosophy, though we are taught that a man's philosophy also is determined by his type. It extends in a practical way to education and to medicine as well. Clearly, if integration between higher and lower mental processes is secured by the cultivation of eidetic processes, and if this can be helped or hindered by methods of teaching, that method should be adopted which best secures integration. In this connection Jaensch discusses the different kinds of education in Germany. "Pedagogical experiment leads us along the same lines; for it has been shown in exhaustive statistical surveys . . . that the eidetic phase and the whole mental structure accompanying it, in particular the perceptual structure peculiar to it, are preserved longer in children who are educated by methods adapted to the mentality of youth." The method indicated is that of the object lesson. Likewise, in pronounced cases of the T-type calcium treatment may be indicated. "The characteristics of this type of personality, including the eidetic phenomena peculiar to it, are susceptible to feeding with calcium . . .," by which their eidetic images may be diminished or extinguished. Jaensch stresses throughout the fact that, with the exception of over-emphasized cases, the T-type is a normal youthful type, the characteristics of which usually diminish later. But the possibility of altering types by drugs is interesting. Apart from the description of types, the methods by which eidetic images may be studied, and considerations of the import of the theory with respect to philosophical issues, the section is largely taken up with justification of the method of working from a few extreme examples to the normal population which lies between them and incorporates in a measure the features of both.

F. AVELING.

Opera hactenus inedita Rogeri Baconi. Fasc. X. Questiones Supra Libros Prima Philosophae Aristotelis (Metaphysica I, II, V–X). Nunc primum edidit Robert Steele, collaborante Ferdinand M Delorme, O.F M. (Oxford: Clarendon Press, London Humphrey Milford 1930. Pp xxxii, 360. Price 28s. net)

The devotion of Mr Steele and his collaborator, Fr. Delorme, to Roger Bacon is altogether beyond praise The sheer labour of wading through a minutely written, and very careless, MS of these lengthy and far from exhilirating dialectical exercises on Aristotle's *Metaphysica* (itself not the most entrancing of works) and transcribing the whole for the press is a task as worthy of a Hercules as the cleaning of the Augean stables, and likely to be more thankless. I have myself read the whole of these pages slowly and attentively, but I do not feel I can conscientiously recommend anyone to follow the example unless he is much more deeply interested than I am myself in the minute matters of thirteenth-century logic The Roger Bacon who appeals to the imagination as so picturesque a figure, both in his lights and in his shadows, is not to be found in these discourses, delivered as a youthful Master of Arts to students in the University of Paris. There is nothing here about *scientia experimentalis*, nothing about the primitive revelation of science to the patriarchs, nothing about the necessity to learn how to confound Antichrist by marvels which leave his own in the shade. Either Brother Roger in these early days had developed none of his most characteristic positions, or if he had, he felt that they must be be kept out of his course So far as I can discover—but I am no expert in the subject—the philosophical standpoint of these lectures is just that common to most Augustinian exponents of Aristotle in the thirteenth century. (It is, of course, not Thomistic. the presence of "matter" in all created beings is insisted upon, and apparently also the plurality of substantial forms, if I apprehend the writer's drift in some places.) There is, of course, no connected argument. The lectures merely raise one dialectical point, suggested by the Aristotelian text, after another, discuss it *pro* and *contra*, and lay down a solution.

A word as to the printed text supplied by the editors One would be very loath to utter any light disparagement of the devoted labour the text represents And I am glad to see that they have appended to it a very long series of notes in which some of the worse errors of the very careless scribe are corrected But it is unfortunate that a great many more are left, apparently because they have never been discovered. And I think it clear that the reason they have not been discovered is that the text has never been read through carefully by anyone sufficiently acquainted with the subject-matter Hence much has gone unnoticed which either will not yield a sense at all, or yields a sense shown by the context to be impossible. The editors clearly have not regarded it as the whole of their business to print what a scribe set down, right or wrong, or they would not have made the scores of emendations they have very properly made. But they have not carried out the business of emendation in many places where it is absolutely necessary, and where the emendation to be introduced is rendered certain by the context. Since it is not likely that there will ever be another edition of Roger's *inedita*, it becomes necessary to warn a reader that he would be far from safe in relying on any passage as correctly representing Roger, merely because it stands in his work as published by the University of Oxford.

I ought, of course, to offer proof of this statement, and accordingly I append a very few examples out of many I have noted, taking them very much at random, and without any desire to judge the whole work by its weakest places

P. 6, ll 1–2. The printed text has here: movetur ad accipiendum melius pomum, tamen sine omni labore superius arguit, which is meaningless. In the appended note we are told to emend thus, movetur . . . pomum; tamen "sine omni labore" superius "arguit," which is not intelligible either. The real correction is, movetur ad accipiendum melius pomum, tamen sine omni labore ut superius *arguitur*. "The boy is impelled to take the better apple, but without any trouble, as is argued above."

P. 26, l. 20. Omne increatum est possibile, infinite supponere. The notes merely remove the comma after possibile, still leaving the words without sense. Read, as the context requires, est possibile infinitum supponere. "Anything uncreated may be supposed to be infinite."

P 50, ll 5–6. *Non autem a malo habet aliquam ordinationem, quia, primo,* non ordinatur ad aliquid This again is senseless, and the true reading is manifest, quia *privatio* non ordinatur ad aliquid. (And "evil," it is meant, is a privation)

P 61, ll. 33–34 (in a discussion of the question whether the ordered universe, was preceded by a "chaos"). Omnem privationem natus est habitus *precedere*, ergo cum res sunt separate, *multe* fuerunt. The reasoning shows that *multe* is a mere error for *miste*. (Separation is a privation of mixture, and therefore presupposes it. Ergo, since things are now separated, they were formerly mixed.)

P. 110, l. 27. Formas naturales, tam *artificiales* quam substantiales. How could there be an "artificial natural form"? Read, of course, *accidentales* "natural forms, both accidental and substantial."

P. 117, l. 2. Tamen secundum quod ens participant ibi unitas analogie. The *corrigenda* instruct us here to "correct" *unitas* to *unitatem*. But, in point of fact, the MS. is here perfectly correct, and the editors have misunderstood both the sense and the grammar, which is "in so far as they partake of being, there is a unity of analogy in that case (ibi)." Apparently the editors want to render "so far as they are being, they partake in that case of unity of analogy." This involves the very improper expression "to partake of unity of analogy," and would also require secundum quod *ens* to be changed to secundum quod *entia*.

P. 120, ll. 37–38. *Sciens* nichil preter substantiam et accidens et creatorem *est*. The actual quotation from the *de ortu scientiarum*, here alluded to, is given by the editors in their note. Yet they have not seen that Bacon is *citing verbally*, and that the nonsense which stands in their text must be corrected by writing, with the author cited, *scias* for *sciens*, and *esse* for *est*.

I have taken these examples of wrong editing just as they came to my hand in turning over the pages, without any attempt at selection. That there are many more, which I could have found quite as easily, surely justifies me in holding that, with all the industry that has been spent on deciphering the MS., the work of Roger Bacon has not been presented to readers in such a text as should be aimed at by the University of Oxford.

A. E. TAYLOR.

The Problem of God. By EDGAR SHEFFIELD BRIGHTMAN. (New York: The Abingdon Press 1930. Pp. 209. Price $2.)

This first volume under review recognizes that for the thought of to-day the doctrine of God is a problem. The volume consists of six lectures forming a continuous argument, and a single lecture which takes up a special problem of the relation of God and man. It is written popularly, but shows wide

knowledge, keen insight, and a fine spirit of tolerance. The first chapter describes the present situation of *Contemporary Doubt*, and offers proofs from many quarters of the rejection of the belief in God The second then discusses the *Substitutes for God* which are being offered, and subjects them to a searching but always sympathetic criticism The changes in the conception of God resulting from the intellectual development of our own time are presented in the two following chapters under two complementary aspects. There has been an enlargement of the conception, the writer describes it as *The Expansion of God* (Chapter III), there has been an elimination of certain ideas about God, he speaks of it as *The Contraction of God* (Chapter IV) The problem posed by the expansion is this "Can the idea of God take up into itself all the new knowledge of science, the new insights of religion, and the new conceptions of philosophy without becoming so all-inclusive as to be meaningless?" (p 85) This danger is averted by the argument of the next chapter on the Contraction 'A known God must be contracted within the limits of our reason" (p 105) The author's own conception is offered in the fifth chapter on *The Resultant Idea of God* He gives a longer and a shorter definition The shorter runs "God is a Person supremely conscious, supremely valuable, and supremely creative, yet limited both by the free choices of other persons, and by restrictions within His own nature" (p 113).

Confining our attention to the question of the limitation of God, we may concede that God limited His freedom in creating free persons capable of opposing His will "If we find God a problem," says the author, "it is not impossible that He also finds us a problem" (p 125) Turning, however, to the world, we are confronted with the fact· "There is evidence of design in nature, there is also evidence of frustration of design and of delay in its achievement' (p 126) Rejecting both the traditional solution of the problem and the dualistic, the author propounds his own solution. "It is due to factors within God Himself, which are eternal aspects of His nature, but not products of His will or choice" (p 127). Evolution, he maintains, proves a finite God Another evidence he finds in the nature of consciousness, but here he seems to assume too close a resemblance between human and divine personality. As our freedom is limited by past choices and present environment, as will depends for its range of choice on nature, as the active factors are balanced by passive, so it is with God "God appears to be a spirit in difficulty" (p 135) From Hegel a third evidence is sought, *i e*, that God's "goodness is not merely an abstract quality, but the constant victory of constant effort" (p 136). Religious experience offers a fourth argument God "is indeed love, but a suffering love that redeems through a Cross" (p 137) The conclusion of the argument runs as follows: "The advance of modern thought has compelled us to modify our faith either in God's character or in His omnipotence. We believe that it is far more reasonable to deny the absolute omnipotence of the power manifesting itself in the world than to deny its goodness. On our view, God is perfect in will, but not in achievement; perfect in power to derive good from all situations, but not in power to determine in detail what these situations will be" (p 137). Agreeing with the writer that man's freedom limits God's, that in making a world of a certain kind other possibilities were ruled out, that God has Himself a definite nature, which excludes the possibility of action contrary to it, I cannot accept the author's, to my mind, too facile solution of the problem, the gravity of which I fully realize I cannot believe that in God's own nature there is the negation or the limitation of this perfection, that He would have created a world which He has not the resources to redeem,

that the way of sacrificial love is proof of weakness, or limitation of power. The religious consciousness seems to me to demand a God perfect in power as well as goodness. "Now we know in part, and see as in a mirror darkly"; and so we may acknowledge that the full solution lies beyond our present ken. Further, as God has not yet fulfilled His purpose, how can we solve in our interpretation a problem which has not yet been solved in reality? I would dissent from the writer's main thesis, while gladly acknowledging the ability and the reverence with which he has advanced it.

The sixth chapter seeks to prove "our right to assert the reality of a personal God" in a thoroughly up-to-date apologetics. The last chapter expands the theme of a suffering love of God, in the argument that God's share in human suffering does not degrade, but enhances the divine dignity. It is an interesting, well-arranged, well-argued, and well-expressed volume, and may he heartily commended as a candid and courageous, informed and intelligent endeavour to solve the greatest of all problems—the problem of God

ALFRED E. GARVIE.

God in Christian Thought and Experience. By W. R. MATTHEWS, M.A., D.D. (Library of Constructive Theology.) (London: Nisbet & Co. 1930. Pp. xix + 283. Price 10s. 6d.)

Ritschl's statement that the field in which theology and philosophy meet is the doctrine of God is illustrated by the title of the volume to be here reviewed. The series to which the volume belongs, *The Library of Constructive Theology*, seeks "to lay stress upon the value and validity of religious experience"; but this is the only volume in the series the title of which makes reference to "religious thought" as well. It is impossible, as the author recognizes, to deal with the subject of God without this wider reference; and throughout the volume account is taken of the bearing of contemporary philosophy on the theological formulation of the religious belief in God. The starting-point, however, is religious experience, not exclusively Christian, as the first chapter deals with *Man's Experience of God* in religion generally, which is described as the recognition of and co-operation with "The Beyond that is akin," and is defended as "an anthropomorphic interpretation of reality." The second chapter, which deals with *The Development of the Conception of God*, shows that "anthropomorphism is the line of progress," until the development is consummated in God in Christ Jesus. The third and fourth chapters then discuss *The Christian Experience of God*. In these what may be described as a "liberal evangelical" theology is presented. The conclusion is reached that the New Testament does contain suggestions towards a doctrine of the Trinity. The fifth chapter, on *The Theological Conception of God*, offers a candid and effective criticism of the dogmatic development, and offers as a "reason for the partial failure of traditional theology, not a lack of intellectual power or religious experience on the part of the theologians, but rather the inadequacy of the intellectual tools which were available. Philosophy, as they were acquainted with it, was incapable of fulfilling the task which they imposed upon it" (p. 110).

In the remaining seven chapters the author seeks "to approach the eternal problem of God from the standpoint" of our own time, "in view of changed philosophical presuppositions and enlarged knowledge." In the sixth chapter, entitled *Transition*, "the present stage of intellectual development is surveyed," and "the converging tendencies of different schools of philosophy"

are interpreted as resulting in the displacement of static by dynamic categories, and as involving a challenge of theistic thought "Is not the process (of the world) itself the sole reality?" (p 131) This is the challenge the author seeks to meet Chapter VII offers an argument for *Transcendence*. Assuming the evolution of the Universe from stage to stage, each transcending the one preceding, the consummation is found in God "The ladder of being by which we ascend through the orders from matter to spirit leads, in the conviction of religion, to the supreme Being, who is the Transcendent One, beyond all orders of being, but at the same time the One, whose presence with every order and level gives them their existence and constitutes them into orders, and into an order " Here the author insists on the value of the doctrine of *Creation* "The Creator transcends all creatures as the active Will in which they take their origin" (p. 136) Chapter VIII then seeks to show that the Creator, so transcending, is *the living and personal God* While it is admitted that not all religions unequivocally witness to the personality of God, yet "the Christian faith and the Christian experience are alike involved in the assertion that in the divine Life is the perfection of personality, so that it is manifested in the Incarnation through the life of a perfect human Person" (p 163) The difficulties of this assertion are fully recognized. After a discussion on the nature of personality as active subject, not passive substance, reasons for and objections to "believing that God is personal" are dealt with "Possibly the Godhead," the author says, "is best described as 'supra-personal,' but impersonal categories are not admissible " What is essential is "to justify and clarify the Christian experience of personal relationship with God" (p. 179) Chapter IX, on *The Holy Trinity*, shows how in that Christian experience this doctrine has its roots, and any influence from pagan religion is denied The "economic" Trinity is rejected; a trinitarian constitution of human personality is expounded as an analogy of the divine Trinity, but another is found also in the conception of society as tending towards personal unity, and the author asserts his conviction that these analogies converge.

Having thus reached the Christian conception of God, the author in successive chapters discusses three problems What is involved in Creation; how the evil in the world can be reconciled with the belief in God as love, and the way in which God, though eternal, is related to Time, so that it has a relative reality for Him, and He is carrying on the providential order of the World I find myself in almost entire agreement with the theological and the philosophical conclusions of the whole volume The treatment of all the varied topics is masterly, there is adequate knowledge and competent judgment. The claim of religions, specially Christian experience, to be fully taken into acount is maintained; and yet the need to justify that experience intellectually is recognized. The volume can be most cordially commended even to readers whose interest is dominantly philosophical, for not only does the author recognize the claim of philosophy to be heard on this subject, but may it not be urged that the Christian experience is a *datum* no philosophy can afford to ignore?

ALFRED E GARVIE

The Nature of Living Matter By Professor L. HOGBEN. (London: Kegan Paul, Trench, Trübner & Co. 1930. Pp. ix + 316. Price 15s. net)

Professor Hogben's book has a much wider scope than its title suggests. It contains a connected discussion of controverted biological questions: the

conceptions of vitalism and mechanism; the weight of teleology in biological speculation; the possibility of a completely objective study of animal behaviour, the possibility of neglecting consciousness in our descriptions of the *public* activities of even man himself; atomistic heredity and the application of experimental methods to the problems of eugenics, the biological conception of adaptation; the methodology of evolutionary hypotheses; and, most interesting of all, the author's own concepts of publicity and privacy in relation to investigation, to religion, education, humanism, reality, and the "holism" of General Smuts The book begins by being polemical, but as it proceeds it becomes soundly critical and constructive. It has strong interest for all who are engaged in philosophical studies, and while it may repel some readers, it may not be neglected by them. Professor Hogben tells us that he did not intend to write such a book until he was sixty years of age. This would have been a great pity, for he is a young man who is already well known as a brilliant and successful investigator. Besides, he can always do it again.

There is reference, all through the book, to the controversy, mechanism *v.* vitalism, but it is not the cruder animism of the past, nor the equally crude materialism (though *that* was and is a potent conception in physiological discovery); it is not these views that Professor Hogben discusses. Of late years what used to be called "vitalism" has become "organicism," "holism," "organic purpose," and "emergence." Holism implies that there is something in the completeness of a physico-chemical system that was not in the parts of the system. Thus the kidneys, or heart of an animal may be excised from the body (which thereupon dies), and may be made, in suitable conditions, to continue to function. It is not, however, a viable system, capable of independent existence and reproduction, as is the body from whence it was taken. But the parts of the isolated organ (that is, its cells) can be made to remain viable, to continue to exist and reproduce in suitable artificial culture media. Emergence means that at new and raised, or more complex levels, properties appear in a physico-chemical system that were not in the parts of the system. But wherever such a complex system is sufficiently well known, we describe it by equations which do not contain any terms that were not in the equations that described the parts of the system. Thus the conceptions of holism and emergence do not appear to be clear ones. The notions of purpose and teleology, which are now so common in biological speculation, must also be rejected on grounds that we shall note presently. Mechanism and vitalism, like nominalism and realism, empiricism and transcendentalism, etc., represent what Professor Hogben regards as a fundamental incompatibility among thinkers. He does not discuss whether or not the antithesis is in "things themselves," in the cosmic and ethical process of Huxley, or in the entropic and dysentropic universal phases of Boltzmann. From his point of view the antithesis is between the conceptions of "publicity" and "privacy." It is in the treatment of these notions that the extraordinary interest of the book inheres.

Necessary to this treatment is that of animal behaviour, considered objectively. This is, of course, an old affair, but the work of Pavlof on "Conditioned Reflexes" has added enormously to the validity of the method. Pavlof's book is tiresome reading, and it appears that those who can expound it have much difficulty in showing exactly how it, in Professor Hogben's words, "mechanizes consciousness." But this is the essence of the work: if we bring food into proximity with the nose and eyes of a dog the animal salivates, and we call the reaction an unconditioned or absolute reflex, which is essential to the working of the dog-mechanism. If, just before, or simultaneously with the presentation of food, an organ-pipe is sounded, and if this is

done repeatedly, there is established a conditioned reflex, so that the dog will salivate even if food is not presented The conditioned stimulus may be a note on the organ, a bell, a flash of light, a shape made out of cardboard, etc —its physical nature does not matter What matters is the time relation of indifferent and absolute stimuli A neuro-muscular-glandular mechanism becomes set up—a rearrangement of elements in the activities of the dog. But obviously such a concatenation of elements may not occur, and we ask what is it that determines it? Plainly it is that *the efficiency of the dog mechanism increases*, or there is organic tendency (not what is often called "purpose") *Again, the small boy on whom food was pressed protested that he was "fed-up,"* and that, though he could chew, he couldn't swallow We replace that statement by this one chewing is the stimulus for the swallowing movements of the œsophagus, as a rule, but when the stomach is full of food a further quantity would be detrimental Therefore the chewing stimulus does not, in this case, lead to a swallowing-reflex because the efficiency of the boy-mechanism would be decreased Again, we are forced back on the concept of organic tendency—the concatenation of reflexes does not occur

Such descriptions of dog and boy activities are "pedantic," and are made with difficulty (and with a certain lack of humour) But they avoid all reference to "will," memory, voluntary activity, or introspection on the part of the investigator It should be possible to extend the method of explanation to human behaviour, even to human social behaviour, but our author does not labour in that effort It may be that experimental research will enable us to make the extension: Professor Hogben hopes so

Why? Why is it desirable to "undermine consciousness" as an agent in human behaviour? Why is it desirable to make introspective psychology, memory, and voluntary bodily functioning unnecessary concepts for biological and sociological investigations? It is not that these are academic proclivities that have had certain implications in the past It isn't that the author is necessarily prejudiced in favour of mechanistic hypothesis, he is by training and temperament very level and judicial It is because in this way he leads up to his antithesis of publicity *v* privacy

There is a public (not an external) world and there are many private worlds. There is an "ethically neutral" world which is the same for all men and women This scientific neutrality can be illustrated from successful physical results When you and I observe an event, our time and space measurements are not quite the same Then we apply the Lorenz-transformations, and I state my results in terms of yours, and *vice versa* The relations between our two sets of data are then the same for both of us—*they are public data* This publicity of statement with regard to biological and social descriptions, etc , is what we ought to try to obtain There is, of course, a private world for each of us, and we mustn't try to make it a public affair Myself, I'd seek to shatter the world and then remould it nearer to the heart's desire, but the records of history have too much of *that* in them The Jerusalem that we would rebuild should be the city of all men My private world has prejudices, obsessions, acquisitiveness, lust, etc ; so has yours, in a rather different way, and it is undesirable and ineffective to introduce these privacies into the public world of science or of human affairs And by cultivation of the objective method of science we may avoid so spoiling things. (But not in this civilization, because of its momentum of individualism, Professor Hogben doubts)

So the objective *study of human behaviour along the lines suggested by* Pavlof may enable us to dispense with the moral philosopher. Indeed, the author suggests, this has largely happened. Science has scored heavily in

giving us such things as aviation, broadcasting, and twilight sleep; moral philosophy offers us truth, beauty, and the good life. So far the gifts of science have been material ones, but need that restriction continue? That the study of behaviour, in its widest sense, may introduce ethical neutrality into politics, statesmanship, and government is an amazingly attractive proposition.

Still, of course, for every man and woman there is a private world, a *hortus inclusus*, in which there is enjoyment that is quite apart from ethical publicity. Certainly there is consciousness which private behaviour cannot undermine, and we believe, each of us, that there is voluntary activity. Surely, on reflection, Professor Hogben will agree that there is also a private physiology, and that introspection is a valid though private activity.

I only refer here to the author's penetrating criticisms of evolutionary hypotheses, of Darwinian selectionism, and his discussions of the biological conception of adaptation: these are matters for the zoologists rather than general readers. Nor do I more than note the very clear discussion of the results of the "Mendelian Renaissance," or of the genetical work of Thomas Hunt Morgan; it is to be hoped that Professor Hogben does not overrate the importance of all this for biological theory as well as for social reorganization. It is important to refer to his discussion of the basis of Eugenics—that basis must be vastly more experimental work than has yet been even contemplated. It was high time that someone pricked the body of Eugenism and (as Lord John Fisher said in another connection) let out the sawdust! Enough has been said to indicate the healthily provocative and comprehensive nature of the work. More than any book published for a very long time does it amplify the scope and interest of biology—both for biologists and non-biological readers. It is most clearly written, so that there is little doubt as to what the author means. It is written in the light of such a personal knowledge of biological researches and their results as to compel one to think again, and more closely, about those parts of the author's conclusions with which he is, at first, inclined to disagree.

JAS. JOHNSTONE.

The Mental Development of the Child. By Karl Bühler. (International Library of Psychology and Philosophy.) (Kegan Paul, Trench, Trübner & Co., Ltd. 1930. Pp. xi + 170. Price 8s. 6d.)

This is the translation of the author's *Abriss der geistigen Entwicklung des Kindes*, which appeared in 1919. It brings together a fair amount of material on the early development of the child, and it has separate chapters on the development of perception, memory, imagination, drawing, thinking, and social behaviour. The translation is poor, but it does not make reading a difficulty. It has references, mainly to German publications, at the end of each chapter.

Child psychology has suffered so much from the lack of even moderately adequate textbooks that the university and training college lecturer will probably give a fairly warm welcome to this translation for the sake of the beginning student. It is, however, a question whether the student will gain as much from the collection of facts as he will lose by the fallacious theories implied or put forward. Bühler takes the "stratification" view of mind and thinks of development as a series of stages. For instance, intellect, he holds, first manifested itself in his child between the tenth and twelfth month. His reason for choosing this age is that the child then first succeeded in some simple experiments, *e.g.*, pulling a biscuit towards it with a string. Bühler does not say why he considers that these actions involved intellect in a way that

no previous action of this child had They obviously involved using something as a tool, but it is incredible that a normal child had shown no such tendency previously In any case, however, it is not the particular age to which the crisis is assigned that is of importance, but the implication that such activities are due to a distinct mechanism which begins to function at a set date Such a view goes counter to the whole trend of modern psychology and is in conflict with the facts established by careful study of children

Koffka in his reference to Buhler s discussion of animal intelligence notes his tendency to revert to obsolete theories, even to theories that he himself has discarded [1] The whole of this book on child psychology suggests new wine in old bottles It is not a portrayal of development but a history of miraculous appearances

V HAZLITT.

Intellectual Growth in Young Children By SUSAN ISAACS (London Routledge & Sons Ltd 1930. Pp xi + 370 Price 12s 6d)

This is the first volume of a series of three which is being written by the author on the subject of child psychology The titles of the other two are *Social Development in the Child* and *Individual Histories* The present volume is the most important contribution to the subject of children's thinking that has appeared It has several related but quite distinct aspects —

(1) An account of the educational experiment carried out at the Malting House School, with detailed records of the children's behaviour and conversations
(2) A theoretical analysis of the factors determining children's intellectual development with evidence drawn from the records
(3) A thesis by the author's husband on the subject of children's "why" questions

It is difficult within the limits of a review to do justice to all these different aspects

To educationists and to many of the general public the most challenging part of Mrs Isaacs' book will be the account of the educational experiment. The aims as set out, "to stimulate active inquiry of the children themselves, rather than to teach them . . and to bring within their immediate experience every range of fact to which their interest reaches out," would probably be acclaimed as *their* aims by the majority of present-day educators, but it is doubtful if many of them would recognize as essential to the fulfilment of these aims the degree of freedom, and the transcendence of prejudice and convention in the pursuit of knowledge described by Mrs Isaacs During the three years of the school's existence with which the book deals there were children from ten to twenty in number ranging in age from two years and seven months to ten years and five months They were given an environment in which they could carry on most of the ordinary adult activities that interest children, and in which they were encouraged to solve for themselves the problems that arose. The work on their problems involved experimentation of the kind that would lay the foundations of work in physics, chemistry, botany, zoology, and physiology The children's physiological interests were particularly marked, and in satisfying them dissections were carried out and anatomical diagrams and a human skeleton were used There is no doubt that this will arouse a

[1] *Growth of Mind*, Koffka, p. 206.

great deal of criticism and antagonism amongst those who hear about it and who do not read the book. It is unlikely that any one who reads it, particularly pp. 160–170, with a mind open to conviction will remain hostile to the procedure even if he would be afraid to follow it in his own practice with children of three and four years.

The other outstanding feature of the school was the avoidance of the establishment in the children of verbal habits for which they had no background of experience or conviction. They were to learn by being and doing, rather than by talking, and they were to formulate from their own need to express facts and relations which they came to grasp, not as the result of hearing other people generalize. An example may be taken from the field of conduct. They were not told to be kind either to one another or to animals, but they were prevented if on any occasion they tried to hurt what could not protect itself. The staff relied upon their own treatment of the children as persons and the general atmosphere of comradeship to develop in the children through practice such habits of social conduct as are denoted by the word "kind."

Section *III* of the book, which deals with Discovery, Reasoning, and Thought, contains a discussion as to the nature of the child's intellectual development. In relation to this there is a criticism of Piaget's view that mental development can only take place *pari passu* with certain more or less clearly defined stages which he seems to regard as independent of experience and as depending in their turn on biological maturation Mrs. Isaacs gives ample evidence from her records to show that, contrary to Piaget's assertions, children well under five years of age are interested in the relations between things in the physical world, and anxious to understand their connections. Piaget claims that the child is ego-centric and non-social to such a degree that his thinking can go on *along pre-logical lines without his being forced to a consciousness of the* contradictions that it involves. Mrs. Isaacs very cogently remarks that physical reality itself will force upon the child the consciousness of such contradictions, and still further she challenges, as at least exaggerated, Piaget's view of the non-sociality of young children. She very seldom found even her youngest pupils indulging in monologues directed to no one in particular when they were in the company of other children, but on the contrary she reports direct social talk with the very youngest. She says that she does not question the fact that very young children soliloquize aloud more than older children. "But since the same children at the same time showed also plenty of true social behaviour, in appropriate situations, it would seem to be a matter of a continuous process of socialization rather than one of hard and fast stages of development marked by crises of change."[1] Again she says: "It is not that one kind of structure gives place to another; it is rather that there is a progressive penetration of feeling and phantasy by experience, a progressive ordering by relational thought of the child's responses to the world. And this ordering begins at least within the first year of life and expresses itself clearly in non-ego centric thought by, say, the fourth or fifth years" . . . "the young child is no more a psychotic than he is a savage. At no point of his mental history is he either of these, any more than he is ever a worm or a fish in the womb."[2]

Contemporaneously with the appearance of Mrs. Isaacs' book an article by Huang appeared in the *Psychologische Forschung* on children's thinking. Using the clinical method, but choosing problems nearer to the child's interests than did Piaget, Huang collected data which led him to take exactly the same view of children's thinking and of the relation between adult and childish thinking as does Mrs. Isaacs Thus he says that the children's physical concepts

[1] P. 88.

[2] Pp 107–8.

were of a simple variety, "but not psychological, finalistic, magical, moral animistic, artificialistic, or mystic "[1]

Just as Mrs Isaacs emphasizes the continuity of mind in temporal development, so she emphasizes continuity in relation to its different forms of activity. She shows that in the play of the child phantasy, thought, and reasoning give place the one to the other and back again momentarily Her records show that even a very young child indulging in phantasy has the double intent of an actor, he may show no confusion of his two worlds of phantasy and reality Further, his phantasy may lead him to investigation of reality and to objectively determined thought with regard to it

It seems strange that while Mrs Isaacs emphasizes the disinterestedness of much of the child's search after knowledge, and attacks Piaget's view of the young child s ego-centricity, she seems to doubt the existence of such disinterestedness at the earliest stages She says: "Much of the child's earliest interest in physical objects is certainly *derivative*, and draws its impetus from early infantile wishes and fears in relation to the parents As I suggested in an earlier passage, the *first* value which the physical world has for the child is as a canvas upon which to project his personal wishes and anxieties, and his first form of interest in it is one of dramatic representation "[2] Observation of the young infant s laborious experimentation, which can easily be observed from the second month, and is probably present from birth, convinces the reviewer that, as Nathan Isaacs says, there is disinterested concern for knowledge from the beginning of the child's life

Mr Isaacs' thesis is an extremely interesting piece of work on the subject of "why" questions He holds that a consideration of children's "why" questions affords evidence that the child is "actively interested in his knowledge as such and directly concerned with the question whether it is (*a*) correct, (*b*) sufficient, (*c*) clear and unambiguous " In support of this view he takes one group of "why" questions, viz. those arising out of a sudden clash between past experience and any present event He says " . the point about the type of experience to which I am referring is that it is not merely a stimulus or release, it presents a specific problem It demands specific thought directed to the problem "[3] The young child's knowledge is unlikely to be sufficient to enable him to resolve the difficulty, but he soon finds that the word "why" addressed to an adult may serve as a key to undo the lock The clash "stimulates the child to a genuine interest in the revision, extension, and reorganization of his knowledge."

By means of a large number of examples of children's "why" questions, Mr. Isaacs supports his thesis that the epistemic interest is genuinely present, and that within the realm of his own knowledge and experience the child can reason as well as the adult He quotes several instances of the child's dissatisfaction with inadequate reasons and his persistence in trying to find a reason that will bring the given phenomenon into harmony with the rest of his knowledge or enable him to put his system of knowledge on a surer basis. In many of the illustrations the adult's ability to explain is sorely taxed by the child's ruthless logic

The outstanding characteristics of this book as a whole are that —

(*a*) The data upon which its arguments are based were collected from children thinking and acting spontaneously, not in response to questions set by adults

[1] *Psychologische Forschung*, Band 14, p 177
[2] P 101. [3] P 295.

(b) The incidents are given in the setting of the child's life.
(c) The writers, in presenting their material, are more concerned to show what children's thinking is really like than to compare it with adult thinking or to uphold by means of it any pre-conceived theory of mental development.

For all these reasons it will doubtless become one of the few classics in child psychology

V. HAZLITT.

History of Japanese Religion, with Special Reference to the Social and Moral Life of the Nation. By MASAHARU ANESAKI, D.Litt., LL.D., Professor at Tokyo Imperial University (London: Kegan Paul, Trench, Trübner & Co., Ltd. 1930. Pp. xxii + 423. Price 21s.

The eminent Professor of the Chair of the Science of Religion, known as teacher no less in the U.S.A. than in Japan, has here undertaken a formidable task, the achieving of which has been done under reverses and hindrances which would have paralysed the will in other men. Much of his MS. was destroyed in the great earthquake of 1923; the reconstructing of the destroyed University Library fell on his shoulders. But it was a wise American who wrote, "The one serious and formidable thing in nature is will"; and verily this man has borne him out. In a little over 400 pages, and with an excellent well-spaced type—here he has been luckier than some—he has given us a purview of religious Japan from a prehistoric limit to the present day.

I say religious Japan, rather than "of religion in Japan," for the "special reference" in his sub-title is not merely incidental. Almost the title might have been. The social and moral life of the Japanese, with special reference to their religions. It is this fullness of matter which packs the book from A to Z, makes it intensely interesting, makes it, in so far as the author's combination of piety and scholarly disinterestedness sees the true, of value to the student of history in any land, but makes it difficult to appraise in a brief review.

The English shows no trace of foreign pen-craft, the style is lucid and alive throughout, and if there is not an absence of the scholar's too frequent habit of writing a running supplementary treatise in footnotes, it is indulged in with refreshing reticence. The chief service rendered to the reader is the historical conspectus of epochs, of eminent names associated with each of them, and what they stood for, either as men or as women of either a New Word, or a renascent word in religious mandate, and further, the waxing or waning in those epochs of the great cults which have counted and still count in Japan: Shinto, Confucianism, Buddhism, Kirishitan (Christian), together with the way in which they have or, again, have not blended in such moral codes as Bushido, in Samurai ideals, in the systems we hear of called Zen (curious evolution from the old Indian Dhyana, or Musing), Tendai, Shinren, Nichiren, and others.

We are far in these pages from, say, the religious atmosphere of India. With very few exceptions we hear little about the Man: "the defective being yearning after perfection" (p. 300), and by that yearning becoming the More in his long Way towards the Most, who he in his nature potentially is. The being, the man, is of course here, but he is shown mightily concerned to bring his fellow-man along—a concern essential to his own permanent advance. And the part played herein by this and that woman helper, ever-

looked till now even in Japan itself, will deeply interest women readers. Most significant, perhaps in what we here read of this over-strenuous people is the modern feeling-out after a New Word, a feeling we might expect with a plurality of great cults looming large Syncretic New Words have come among them and have waned, not of such is the positive and abiding new *mandate of That, Who*, to adapt scripture, may in these latter days again speak unto us

C A F Rhys Davids

Whewell's Philosophy of Induction By Marion Rush Stoll (Lancaster, Pa, Lancaster Press, Ic 1929 Pp iv + 125)

A hundred years ago Herschel published his *Preliminary Discourse on the Study of Natural Philosophy*, and thereby stimulated considerable interest in the history philosophy, and logic of science In 1837 his friend Whewell published his *History of the Inductive Sciences*, which was followed, in 1840 by his *Philosophy of the Inductive Sciences* In these volumes, and in others intimately connected with them, Whewell laid the foundations of important new departments of study, for which he has not received all the credit due to him The history of science had to wait nearly a century before another Cambridge scientist (Dr. Dampier-Whetham) took up the torch to carry it a stage farther, and the study of that subject in British universities has barely made a beginning Whewell was more successful in rousing an interest in the philosophy of science and in scientific method But for Whewell and Herschel the *Logic* of John Stuart Mill (1849) would never have been written; and Mill's account of the logic of induction gave a great impetus to the study of methodology Whewell's work in this field was almost entirely eclipsed by Mill's treatise This was mainly due to the fact that Mill's empiricism harmonized better with the spirit of the nineteenth century than did the apriorism of Whewell This is true of England, at all events The same is true of the naturalism of Mill as compared with the supernaturalism of Whewell Nevertheless there is much in Whewell's writings on the philosophy of science that deserves more attention than it is wont to receive Miss Stoll's little book is a welcome contribution to this subject It gives a concise and clear account of Whewell's position, its strength and its weaknesses, and it does not altogether ignore more recent contributions to the main problems As the conflict between empiricism and apriorism, and between naturalism and super-naturalism, promises to become somewhat lively again, Miss Stoll's little book should make a special appeal to some readers

A Wolf

The Psychology of Intelligence and Will By H G Wyatt (London Kegan Paul, Trench, Trübner & Co, Ltd 1930 Pp viii + 273 Price 12s 6d, net)

This addition to the International Library of Psychology, Philosophy, and Scientific Method deals with that important—some would say that most important—aspect of human nature which has so strangely been neglected by most contemporary psychologists, namely, the relation of Intelligence to will and the nature of the will itself Reasons for this curious neglect are not

difficult to discover, though excuses for it carry little weight. It is not enough to claim that, as a natural science, psychology is concerned with laws and mechanisms, and therefore must eschew consideration of whatever seems to escape mechanical law, or explain it away as an illusion. Science is not prejudiced merely to discover laws; its aim is to discover truth in whatever form it may be found. Nor is it enough to plead that experimental psychology has become so departmentalized that psychologists have no time to give to deeper problems of their subject, or are so preoccupied with cognitive process that the investigation of will and conation is scamped. As a matter of fact, many psychologists have investigated orectic problems, and are still busy extending their researches. Nevertheless, as Mr Wyatt says, professional psychology—the psychology of text-books and manuals—is singularly unhelpful in its treatment of the will and in relating will-process to intelligence. Viewing the matter from the standpoint of education, the author is interested not only in the imparting of information, but also in the training of intelligence, the regulation of passion, and the development and strengthening of the will. He complains that books on educational psychology have been of little service to him in providing a helpful theory of intelligence and volition, and adds with some justice that books on general psychology are in this respect no better. "There is much measuring of intelligence, but few attempts to fathom it, and will is apt to be disposed of by treating it as something else." The first part of Mr. Wyatt's book consists of a critical examination of five leading conceptions of intelligence, including those of the stimulus-response, the Gestalt and the Noegenetic schools. Rejecting the explanation of behaviour given by stimulus-response psychology as inadequate, and stressing the insufficiency of the Gestalt analysis, he develops his own view that intelligence is a psychological faculty which is characterized by the function of apprehending true or useful relations. It is innate, susceptible of individual differences, and, while manifesting itself at all levels of evolution, reaches its highest development in man. The conception of intelligence as the capacity of relational thinking leads Mr. Wyatt to examine Spearman's doctrine of general mental ability as exemplified in three different and irreducible processes in which all knowledge originates These are (1) the apprehension of experience, (2) the discovery of relations between items of knowledge, and (3) the construction (eduction) of correlated items. Though his own view is closer to that of Spearman than to the others, the author believes that one principle only, and not three, is necessary to explain thought and behaviour. He reduces the first principle to the second by saying that "to cognize an experience is to relate it. Our very first act of knowing is contrast." Similarly, he reduces the third principle to the second by saying that in correlate eduction the relating capacity is the mental capacity involved; "the appearance of the correlative experience is its automatic outcome." The question at issue between Mr. Wyatt and Spearman is not a logical but a psychological one. A second point at issue is that of the relevance of the relation which is apprehended to some object or end intended by the person apprehending it. As stated, Spearman's second principle, to which the first and third are reduced by Mr. Wyatt, reads: "the mentally presenting of any two or more characters (simple or complex) tends to evoke immediately a knowing of—not "the", as quoted by Mr. Wyatt, but—relation between them. In Spearman's later volume, *The Abilities of Man*, the formula reads: "*any* relations that essentially hold between them." Mr. Wyatt believes, not that this constitutes intelligence, but that the power of apprehending *pertinent* relations does. But surely he is not quarrelling with Spearman here, except in so far as he has omitted to take

the quantitative principles into account. He writes, "for purpose of logical treatment Spearman has deliberately left the conative aspect as far as possible out" Undoubtedly, when stating a purely qualitative principle But this principle must be taken together with the others, and in this connection more especially with that of conation Two considerations are in place here First, the pertinence of a relation to an end or goal is itself a relation, and to discover relations is a mark of intelligence Secondly, though with characteristic caution Spearman states the law of conation with regard to intensity of cognition only, this obviously includes what is called change in direction as well as the enhancing of any character, or relation, required If one relation is seen not to be 'pertinent' to an end, some other may be educed, or recalled, by the operation of the conative law There would seem to be less disagreement between 'relational thinking' and 'noegenetic process' than appears on the surface

The second part of Mr Wyatt's volume contains two chapters on "Intelligence and Instinct" and "Intelligence the Master of Instinct" Here the two main points are argued that, while intelligence is "the servant and assistant of instinct, both in the preliminary stage where perception is incomplete, and in the intermediate stage of endeavour to satisfy the impulse," it is also the master of instinct in that it creates its own ideals, sets up its own authority, and bends instincts to its uses, because it can universalize the principles underlying conduct

Part three deals specifically with the will as characterized by initiative and links it up with intelligence The level of will depends upon the intelligence level In general, the characteristic of living beings is the immanence of their activity, and this is manifested in the three stages of reflex action, instinctive or impulsive behaviour, and pure self-activity or true initiative, which is the highest form of volition Truly volitional behaviour is thus action in accord with intelligence, and in so far free, and when this supreme form of initiative is in opposition to a lower form, the self may control or inhibit impulse, and act in accordance with reason The will, accordingly, depends essentially upon intelligence In its highest form it is impossible without cognitive originality Intelligence, likewise, though creative, is impotent without volition; for it may present ideal principles of conduct, not imposed from without but strictly self-determined, and yet no conduct patterned upon them may ensue Both intelligence and will, accordingly, are regarded as originative or initiative, the one of cognitive items, the other of actions And both are forms of self-activity Mr. Wyatt is contending for a view of human personality, or psychological personalism, which of recent years has been attracting many adherents He relies, however, mainly upon the experiences of everyday life in support of his contentions, and criticizes much of the experimental work that has been carried out upon will-processes on the ground that life-situations are crucially different from laboratory-situations There is no reason to criticize his criticisms, except to point out that controlled situations, which may be repeated again and again, allow us to reconstruct what actually is experienced when one resolves or wills, and to analyse with some degree of confidence the various elements which come together in a will-act Is it not important, for instance, to obtain a valid distinction between volition and conation, or to show by instrumental controls as well as introspection that the feeling of effort is not essentially the same thing as the experience of willing? Is not the identification of willing with self-activity, as distinct from the feelings of bodily strains and muscular contractions, a gain, when it is made, not in the haphazard way of casual introspection, but with

all the precautions of experimental procedure? And, with regard to his criticisms that professional experimental psychologists have pet "isms" at stake, and that some of them "empower" abstractions, is this a failing peculiar to experimental psychologists? Mr Wyatt's criterion that the final court of appeal in these matters is our own personal experience is none the less valid; and personal experience, both in the more exact experimental conditions and in casual introspections, as a matter of fact support his thesis The author might, however, have made more of the available experimental results than he has done. He might have cited the works of Webb and Lankes as establishing a general will-factor, especially in support of his own conclusion that truly volitional behaviour is in accord with intelligence, and exhibits itself as consistency with or adherence to self-conceived and self-determined principle. For Webb has proved that will-qualities and profound intelligence correlate positively; and Lankes has shown that the self, in the case of persons accustomed to act on principle, can modify even its own physiological tendencies, such as that of perseveration or the opposite. *A fortiori* one might argue control of instinctive impulses.

The value of *The Psychology of Intelligence and Will* lies not merely in the analyses of volitional consciousness and the definite relation of will-process in its highest form of free initiative to the capacity of relational thinking in its most creative aspect, but in the reasoned challenge which it makes to all forms of mechanistic psychology. It is a pity that the volume should be disfigured by a number of misprints, some of a misleading character. "Monthly", for instance, appears twice within six lines for "Monograph"; and, still worse, "educative" does duty for "eductive."

F. AVELING.

The Social Contract of the Universe. By C. G. STONE, M.A. (London: Methuen & Co. Pp. vii+118. Price 6s. net.)

The idea that much of importance can be proved by pure metaphysics is not very general in these days. Fortunately, however, there are some who still uphold it impenitently, and are prepared to give an answer to what Mr. Stone takes to be *the* question of metaphysics, viz., "What must there be, or what cannot there be, if there is to be reality at all?" (p. 37). In short, Mr. Stone, at the lowest rating, deserves a medal for gallantry; and he is also to be commended in the highest terms for the austerity, simplicity, and conciseness of his style. It is sometimes complained of Cambridge philosophers to-day that they pursue simplicities so resolutely as to become wholly unintelligible; and therefore it is a pleasure to record that the same type of complaint may now be levelled against certain Oxonians.

It is, of course, a different question whether the attempt has succeeded. Personally, I am of opinion that it has not. The crucial introductory "proof" that "from the certainty that there is something" we can validly reach "action and infinity, each in a certain way" (p. 2), seems to me to fail because (*a*) it assumes "necessary production *a priori*" in a sense which Hume showed to be a *petitio* in his Treatise I, iii, Sect. 3, and (*b*) because it rests upon an imperfect logic. Mr. Stone appears to hold that nothing can be *just* what it is because, if it were, it would be disconnected with everything else; and I refuse to accept any logic which implies that because I am neither more nor less than "just" what I am, I am therefore bound to deny that I am my father's son. (Incidentally, if Mr. Stone's "proof" could be accepted, he would show,

not, as he thinks, that everything is definitely infinite, but that everything is indefinitely finite)

If I am right in this criticism, I could not give the book a higher recommendation than the very important species of praise than is implied in Mr. Stone's pages 84 *sq* But, of course, I may very well be wrong And I hope that a great many readers, all indeed who enjoy a thoroughly abstract argument, will read Mr Stone for themselves Even if they do not agree with him, they will find a tonic quality in his pages, and his conclusion (very well indicated by his title) is even exciting

I have to remark (1) that the concluding chapters are somewhat less austere than the earlier ones—this is as it should be—and (2) that, despite the general excellence of the style of the book, there appear to be lapses in this particular I have read the following sentence on page 84 several times "We can reason in metaphysics about value, because reality is made to be good, but not merely good, and there is what action as one must or cannot will as good", and I find the sentence atrocious Its successor (which begins "And we can 'prove' what action as one agent must will as good") seems to me to be no better

JOHN LAIRD

Estatification By His Honour Judge H C. DOWDALL, K C (Oxford Clarendon Press, Humphrey Milford 1930 Pp 40 Price 2s 6d net)

This Presidential Address by Judge Dowdall to the Society of Public Teachers of Law in England and Wales is concerned with a psychological analysis of the "legal and political problem of corporate unity," and is based on what seems to the learned Judge to be two "self-evident" propositions —

1 "The fundamental problem for a general theory of law is a problem of corporate life and action prior to that particular form of corporate life and action which imposes sanctions

2 The general problem of corporate life and action is a problem of analytical psychology"

"Estatification" is a word evolved by the author from the following pedigree. "Status" he regards as a type of position, which a man may hold in the eye of the law Anyone who has a "status" is technically called a "person," *e g* citizenship and citizen An "estate" is a number of actual concrete interests taken as a whole, and there is no ordinary word, the author says, for a legally recognized type of interest "Statification" he proposes as a term appropriate to describe any scheme whereby people and their interests are made into an articulate whole in terms of type as is done by law What makes an "estate," that is to say its structure, is what the author says he means by an "estatification"

Taking what is known as a corporate body, its integration, the author contends, is not an incorporation of persons in the sense in which the word person is ordinarily used to signify a human being, but is an integration of interests, and, as he sees it, the points of social integration lie in the interests that bind men together in the various societies to which they belong As a member of a society, a man's interest therein is all that is relevant, and anyone else may take his place provided he has the relevant interest and efficiency In the case of a society, it is the articulation of interests which integrates men to the extent that they are integrated at all This is the centre and pivot, he says, of the notion of "estatification" as contrasted with "incorporation" "Estatification" imposes a certain permanence in the articulated structure. It is with interests that articulate in accordance with a standing type, especially a legally recognized type that "estatification" is concerned.

The final conclusion to which the author at last leads his readers is that all corporate unity is derived, not from an incorporation of persons, but from an "estatifying" of their interests. If the proposition so expressed in this unfamiliar phraseology, and arrived at after a somewhat involved argument, means that it is generally some common interest which unites a body of persons together into a coherent group and evokes a unity of purpose and of action, there will not be much difference of opinion with the author of the Address.

L. L. M.

Received also.—

FRITZ-JOACHIM VON RINTELEN. *Der Versuch einer Überwindung des Historismus bei Ernst Troeltsch*. Halle (Saale) Max Niemeyer. 1930. Pp.59.

E. A. MOWRER. *Simon: or The Future of Politics* (To-day and To-morrow Series.) London Kegan Paul, Trench, Trübner & Co 1930 Pp ix — 96. 2s. 6d.

JOSEPH RATNER. *Spinoza on God*. New York. Henry Holt & Co. 1930. Pp. xiv + 88. $1·50.

I. C. ISBYAM. *Infinity and Ego*. London: C. W. Daniel & Co. Pp. 25. 1s.

The late J. M. E. MCTAGGART. *Some Dogmas of Religion*. (Introduction by C. D. Broad, Litt.D.) London: Edward Arnold & Co. 1930. Pp. lii + 299. 6s.

TOBIAS DANTZIG, PH.D. *Number: the Language of Science*. London: George Allen & Unwin Ltd. 1930. Pp. viii + 260. 10s.

W. OLAF STAPLEDON. *Last and First Men*. London: Methuen & Co. 1930. Pp. xi + 355. 7s. 6d.

IMMANUEL KANT. *Lectures on Ethics*. (Tr. Louis Infield, O.B.E., B.A.; Introduction by J. Macmurray, M.A.) London: Methuen & Co. 1930. Pp. xiii + 253. 10s. 6d.

C. DELISLE BURNS, M.A., D.LIT. *What to Read on Philosophy*. Leeds Public Libraries. 1930. Pp. 24. 3d.

JAMES H. TUFTS. *Recent Ethics in its Broader Relations*. Berkeley: University of California Press. 1930. Reprinted. University of California Publications in Philosophy. Vol. 12, No. 2. Pp. 20. 30 cents.

F. L. CROSS, M.A., B.Sc., *Religion and the Reign of Science*. London: Longmans Green & Co. 1930. Pp. ix + 110. 4s.

A. C. UNDERWOOD, M.A., D.D. *Contemporary Thought of India*. London: Williams & Norgate, Ltd. 1930. Pp. 235. 5s.

W. TUDOR JONES, M.A., D.PHIL. *Contemporary Thought of Germany*. (Vol. I.) London: Williams & Norgate. 1930. Pp. viii + 278. 5s.

J. E. NICOLE, M.R.C.P. & S. (Foreword by W. H. B. Stoddart, M.A., B.S., F.R.C.P.) *Psychopathology*. London: Baillière, Tindall & Cox. 1930. Pp. vii + 203. 10s. 6d.

W. C. D. DAMPIER-WHETHAM, M.A., F.R.S., *A History of Science and its Relations with Philosophy and Religion*. (Second edition.) London: Cambridge University Press. 1930. Pp. xxi + 514. 18s.

SIR JAMES JEANS. *The Mysterious Universe*. London: Cambridge University Press. 1930. Pp. viii + 154. 3s. 6d.

MAURICE HUTTON. *The Sisters Jest and Earnest*. London: Hodder & Stoughton. 1930. Pp. 287. 12s. 6d.

A. E. TAYLOR. *The Faith of a Moralist*. (Gifford Lectures delivered in the University of St. Andrews, 1926–1928.) London: Macmillan & Co. 1930. Vol. I: *The Theological Implications of Morality*. Pp. xx + 437. 15s. Vol. II: *Natural Theology and the Positive Religions*. Pp. xx + 437. 15s.

NEW BOOKS

C. LLOYD MORGAN, D Sc, F.R S., *The Animal Mind.* London: Edward Arnold & Co 1930. Pp IX + 275. 12s. 6d

C SPEARMAN, PH D, HON LL D, F R S *Creative Mind* (Contemporary Library of Psychology) London Nisbet & Co, Cambridge at the University Press 1930 Pp XII + 153 5s

W. D ROSS, M A, LL D *The Right and the Good* Oxford at the Clarendon Press 1930 Pp VI + 176 10s 6d

J C FLÜGEL, B A, D Sc *The Psychology of Clothes* (International Psychoanalytical Library) London The Hogarth Press 1930 Pp 257 21s

R D CARMICHAEL *The Logic of Discovery* Chicago & London The Open Court Publishing Co 1930 Pp IX + 280 $2

E. S RUSSELL, O B E, M A, D Sc, F L S. *The Interpretation of Development and Heredity A Study in Biological Method.* Oxford at the Clarendon Press 1930. Pp 312. 15s

KYUNG DURK HAR *Social Laws: A Study of the Validity of Sociological Generalizations* Chapel Hill University of N Caroline Press. 1930 Pp XII + 256 18s

HARALD HOFFDING. *Jean Jacques Rousseau and His Philosophy* Tr. by L E A Saidla and William Richards. New Haven Yale University Press, London Humphrey Milford Oxford University Press 1930. Pp XXIV + 165. $2, 9s

N R D'ALFONSO *Ostia e il Tevere* Roma Società Editrice Dante Alighieri di Albrighi e Segati 1930 Pp 12 Lire 3

MORITZ SCHLICK. *Fragen der Ethik* Wien· Verlag von Julius Springer 1930 Pp VI + 152 RM 9·60

E. L. YOUNG *A Philosophy of Reality* Manchester University Press 1930 Pp XI + 266 8s 6d

D. E. SHARP, M A, D PHIL *Franciscan Philosophy at Oxford in the Thirteenth Century* Oxford University Press London Humphrey Milford 1930. Pp VIII + 419 21s

W. RIVIER *L'Empirisme dans les Sciences Exactes* (Archives de la Société Belge de Philosophie) Bruxelles J Perebooms 1930 Pp 13 Fr. 2.

ABHAY KUMAR MAJUMDAR, M A *The Sāṅkhya Conception of Personality.* (Edited by J K Majumdar, M A, Ph D, Foreword by S Radhakrishnan, M A, D Litt) Calcutta University Press 1930 Pp XVI + 158

FRANCIS WARRAIN *La Matière l'Énergie* Paris Félix Alcan 1930 Pp 179. Fr. 20

BARON CAY VON BROCKDORFF. *Hobbes als Philosoph, Pädagoge und Soziologe.* Kiel Verlag von Lipsius & Tischer. 1929 Pp 171

HERBERT WILDON CARR *The Monadology of Leibniz* London. Favil Press. 1930 Pp IX + 213. 10s.

Condillac's Treatise on the Sensations Tr by Geraldine Carr (Preface by Prof. H Wildon Carr) London The Favil Press 1930 Pp XXXVII + 250 10s.

W. PEPPERELL MONTAGUE. *Belief Unbound. A Promethean Religion for the Modern World.* New Haven, U S A· Yale University Press. London. Oxford University Press. Humphrey Milford 1930. Pp 98 $1 50, 7s.

L. W GRENSTED. *The Philosophical Implications of Christianity.* Oxford at the Clarendon Press 1930. Pp 20.

GEORGE BOAS *Critical Analysis of the Philosophy of Emile Meyerson* Baltimore· The Johns Hopkins Press. London Oxford University Press Humphrey Milford 1930 Pp IV + 146. 8s

E. DUPRÉEL. *Le Renoncement.* (Archives de la Société Belge de Philosophie) Brussels: J. Perebooms. 1930 Pp 36 Fr. 4·50

THE INSTITUTE AT HOME: ANNUAL MEETING

THE Fifth Ordinary General Meeting of the Institute was held at University Hall, 14 Gordon Square, W.C. 1, on Monday, September 29, 1930.

Professor J H Muirhead, M.A., LL.D. (Chairman of the Council), gave the following address —

"LADIES AND GENTLEMEN,—Nothing can feel itself at home in the world without 'a local habitation and a name.' The Institute of Philosophical Studies has had a name for the last five years, but hitherto it has been dependent on charity for its local habitation. It is most grateful to the Electrical Federation for its generous hospitality during these years, but it has always felt (as guests, however welcome, are apt to feel) that it was on its good behaviour in the Federation's palatial offices, and philosophical simplicity was somewhat overawed by its gilded officials. Here, if not perhaps 'at ease in our own inn,' we are at any rate like St. Paul at our own charges 'in our own hired house,' and I wish to begin by referring to the appropriateness to our work of the quarters in which, by the kindness of the Trustees of the Williams' Library, we now find ourselves.

"University Hall was founded in Gordon Square in 1848 in commemoration of the Dissenters' Chapels Act of 1844, which was rightly regarded as a landmark in the history of civil and religious freedom described at the time by the Committee appointed for the foundation as ensuring 'to us and to future generations a full Protestant liberty of private judgment unfettered by the accident of an ancestral creed and protected from all inquisitorial interference.'

"It was designed in the first instance as a residence for students at University College whose parents were in sympathy with 'the great principle of unlimited religious liberty'; but also as a centre for the teaching of 'theology, mental and moral philosophy, and other branches of knowledge either not at all or not fully taught at University College.' With these objects it was placed under a succession of Principals whose names were sufficient to establish its reputation as a centre of advanced thought: Francis W. Newman, Arthur Hugh Clough, Richard Holt Hutton of the *Spectator*, William B. Carpenter the Physiologist, Henry Morley, the Professor of English Literature in University College. With these deserves to be mentioned as its most ardent supporter and chief benefactor, Henry Crabb Robinson, who in his *Diaries* describes the opening meting on October 16th, almost precisely eighty years ago, when Richard Martineau gave the address to 'some dozen ladies and eight or ten young men'—an audience, he complains, that would have been much larger if proper notice had been given as of a public event.

"It was in commemoration of Crabb Robinson and the group of famous men and women whom he knew at home and abroad, including Goethe, Schiller, Wordsworth, Coleridge, and Charles Lamb, that the interesting frescoes on the walls were designed.

"In 1882 Manchester New College, under the principalship of James Martineau, was transferred to this building. In the later 'eighties I was myself for some time a student in the College, and the Hall in which we now are seems

to be peopled with the presence of vanished leaders of thought in those days who came to the fortnightly debates that were held in it Martineau, Stopford Brooke, Philip Wicksteed, Estlin Carpenter, William Clarke, and other well-known Fabians and economists

"On the departure of Manchester New College to Oxford the premises were taken over by the Trustees of the Dr Williams' Charity, which had been founded with similar objects some two hundred years before

"I mention these facts to show that in finding a home here the Institute of Philosophical Studies enters not only a building but a great tradition of free and untrammelled thought upon the subjects that most profoundly interest the human mind The need is greater and more widely felt than ever. The Universities in London and elsewhere have recognized it to a fuller extent than in the days when the Hall was founded, but they necessarily leave much of the field untouched There are many who didn't *take* philosophy while they were at College, but have since been taken by it, there are many who took it, but desire to take more of it under freer conditions, besides these there is a growing number of men and women who have received their training in the school of life, and have been led to philosophy by the necessity of finding a deeper answer to its problems than general literature or their own unguided thought can supply We believe that the opportunities that are here offered by the Institute only require to be better known to be more widely appreciated, and Mr Garcke, to whom we owe so much in obtaining this home for it, will speak on what is proposed in this respect I will conclude by saying one or two things for myself in expansion of what I have written in the short Foreword to the Fifth Annual Report

"In the first place, I would repeat what I there said of my conviction that the thing we here propose to do can't be done in a corner by a few academically trained persons They need the help of those I have already referred to as coming with the wider and more forcible training of life We invite these not only to receive but to give In doing so we place ourselves on a frankly democratic basis To my mind democracy in its essence is as far from the rule of mass opinion as from any kind of dictatorship, whether of the fascist or of the proletarian type It consists in no material but in a spiritual power first in the power to see that it takes all sorts to make a world—sorts not determined merely by external conditions, but also by inner gifts and forms of experience, and secondly, in the humility to recognize the value of the contributions of others remote from ourselves in mental outlook and the circumstances of their lives Even apparent failures may have much that is positive to teach, and John Bradford's 'There but for the grace of God go I' is only a half-truth, if we let them go at that and do not try to discover something of the wisdom locked in their failing hearts.

"For the world that all sorts and conditions make (and this is my second point) is a world of souls Underneath material needs are needs of the soul I mentioned (after Green) three of these in my Foreword, the need 'to be free to understand to enjoy' This Hall is dedicated to the first of these as the condition of the others. We enter into that freedom and seek to use it in the interest of the second: the need to understand. But we do so with no intention of separating this from the other two, but in order to use it to attain a higher level of freedom and a truer enjoyment Freedom has its laws and enjoyment has its conditions, which call for the disciplined intelligence that we may make no mistake about them.

"Philosophy (and this is my third point) is an intellectual discipline devoted to the understanding of other forms of experience, logical, moral, political,

æsthetic, religious. There are some who would confine it to that; but they forget that philosophy, though dealing with theory, is itself a form of experience and an enjoyment comparable to the highest. We live, I have said, in a world of souls, and souls live in a world that takes them beyond the visible to an invisible with which they seek to enter into communion. This they do, some in one way, some in another, through devotion to art, science, ordinary everyday duty, religion. 'In various manners,' as F. H. Bradley put it, 'we find something higher which both supports and humbles, both chastises and transports us.' Philosophy does not take the place of any of these. Yet to some it is the main way of coming into touch with the unseen world and with what is higher than themselves.

"It is because these rooms offer a better opportunity than we have hitherto enjoyed of following this quest in common, perhaps of forming some sort of real society of seekers, that their acquisition forms an important step in the history of the Institute."

A resolution for the adoption of the Annual Report and Statement of Accounts for the year ended March 31, 1930, proposed by the Chairman and seconded by Mr. E. Garcke, was put to the meeting and carried unanimously

The proceedings then terminated.

CORRESPONDENCE

To the Editor of the *Journal of Philosophical Studies.*

Dear Sir,

One must not expect to be allowed to bandy arguments with a reviewer, *and in the general tenor of Mr M Kaye's notice of my book, The Fallacies of Fatalism,* there is nothing to be complained of On two points, however, he has, doubtless through a misunderstanding, seriously misrepresented my position

Firstly I do not hold that an entity is, in respect of its essential nucleus, "self-caused" and ' self-sufficient" and ' impervious to external influences " If any entity *deserved these descriptions, that could be nothing less than the universe itself* The physical entities of which I chiefly treat in the first part of my book are molar bodies such as appear on the earth's surface Each of these I hold to be in part, but only in part, the cause of itself The existing fragment of rock is not *merely* an effect of the disintegrating factors which caused it to separate from the cliff The living and *developing embryo is not merely an effect of the conjunction of sperm and germ cells* and of the maternal nourishment subsequently supplied to it

Molar entities are not only pervious to external influences The higher they stand in the scale of physical evolution, the more pervious they become The relatively *impervious pebble remains itself for ages* The short-lived organism depends for its survival on adaptation to environment, and an important part of this adaptation, in the higher animals, consists of their reactions to sense perceptual stimuli The highest known type of "self determination," in human persons, depends upon conceptual knowledge opening up a wider terrestrial environment than is ever apparent to the senses—an environment which includes many other individuals and organized human groups, the influences of and reactions to which are or may be subject to moral valuations

Secondly, as to "chains of causation"—*i e* serial sets of events in which each *consequent has a causal antecedent The reviewer, in accordance with his misunderstanding* already alluded to, supposes me to hold that ' the chain of causation within a physical entity may exist independently of other chains of causation In fact my book does not discuss such *internal* chains of causation, and I should agree to the statement in question only if taken in a relative sense There may be a continuity of ultra-microscopic oscillations which appears as the cohesion and gravity of an individual pebble, while the complex continuing life of an individual organism seems to involve a network of chains of causation in harmonious co-operation In both these cases there is a relative, but not more than a relative, independence of external agencies In fact, however, it is not internal but external, "chains of causation" which I discuss in Sections 22–23 of my book These are conceived to depend on the successive interactions of separate entities with one another, such interactions occurring locally, here or there, on the earth's surface Whatever *laws of causation there may be, every sequence of cause and effect is a strictly* particular or circumstantial fact

While, according to the law of gravity, bodies, whether near together or far apart, attract one another in the way that the law describes, the other forms of causation, physical, chemical, and biological, are not thus proportionate to distance. They depend upon the actual local contact or the close proximity of the bodies interacting, and when bodies which might interact are separated by a sufficient (it may be a very small) space interval,[1] no interaction takes place As I put it on page 35, "all terrestrial physical causation depends upon some collocation of entities which interact with one another in their natural ways, because of their having come into contact or into such proximity as causes them to interact."

[1] "A miss is as good as a mile."

Of the chains of causally connected events which are simultaneously occurring at all parts of the earth's surface, a vast number must be practically independent of one another Most events and series of events, whether of physical, biological, or social import, which are now happening in Bristol, are quite independent of those happening in Southampton or any other English or foreign town. Even within a very limited area causal sequences may be independent of one another. Most of the persons and vehicles passing one another in a crowded street are bent on different, or at least disconnected, errands, and do not affect one another by the fact of passing. Here, however, the fact of proximity does make possible both street accidents and personal meetings of dramatic import, whereas bodies, and their interactions in series of events, when occurring sufficiently far apart, can have no practical effect upon one another.

It is in the constant casual meeting of chains of causation of diverse local origin—a meeting which is, of course, caused, but not caused according to any uniform law—that, I believe, a real physical contingency resides Physical reality is compact of "accidents," although it is only to a few of the more startling ones that the name is popularly given.

Yours sincerely,
CHARLES E. HOOPER.

SOUTHAMPTON,
October 8, 1930.

INSTITUTE NOTES

OBITUARY NOTICE

We regret to announce that Mr. Emile Garcke, the first Treasurer of the Institute, and one who took a prominent part in its foundation, died at his residence, near Maidenhead, on November 14th, at the age of 74. During the first six years of the Institute's life Mr. Garcke has been a generous supporter, having made himself responsible on many occasions for annual deficits. His loss will be deeply lamented by all members of the Institute.

Lent Term begins on January 13th and ends on March 25th The following courses of lectures will be given during the Lent Term —

"Modern Ethical Problems," a course of six lectures by Professor J L Stocks, D S O , M A , on Fridays, at 5 45 p m , at University Hall, 14, Gordon Square, W C 1, beginning January 16th, 1931 The lectures are free to members of the Institute For non-members the fee for the course is 12s 6d

"Some Philosophical Aspects of Modern Industrial Society," a course of six lectures by Professor P Sargent Florence, M A , Ph D , on Tuesdays at 5 45 p m , at University Hall, 14, Gordon Square, W C 1, beginning January 20th, 1931 The lectures are free to members For non-members the fee for the course is 12s 6d.

"Biology and Social Life," three lectures by Professor Julian Huxley, M A , on Tuesdays, at 5 45 p m , at University Hall, 14, Gordon Square, W C 1, beginning March 3rd, 1931 The lectures are free to members of the Institute For non-members the fee for the set is 6s 3d

The full syllabus of the Session can be obtained on application to the Director of Studies, University Hall, 14, Gordon Square, W.C 1

WIRELESS "TALKS" ON PHILOSOPHY

Six talks entitled "To Philosophize is to Civilize—The Place of Reflection in Man's Cultural Achievement," by Professor A E Heath, at 8-8 30 p m , January 6th, 13th, 20th, 27th, February 3rd, 10th Daventry 5XX

THE BRITISH INSTITUTE OF PHILOSOPHICAL STUDIES

(Incorporated under the Companies Acts 1908-1917 as a Company not for Profit but limited by Guarantee)

President:

Chairman of the Council:
PROFESSOR J. H MUIRHEAD, M.A. LL.D.

Deputy Chairman of the Council:
A. D. LINDSAY, C.B.E, M.A.

Chairman of the Executive Committee:
SIR LYNDEN MACASSEY, K.C, M A., LL D, D.Sc.

Director of Studies:
SYDNEY E. HOOPER, M.A.

Hon. Secretary:
P. M. ROSSDALE, LL.M.

Members of Council * :*

PROF. S. ALEXANDER, O.M., M.A., LL.D., Litt.D., F.B.A.
MAJOR THE HON. JOHN J. ASTOR, M.P.
LLEWELYN B. ATKINSON, M.I.E.E.
F. A. P. AVELING, M.C., Ph.D., D.Sc., D.D.
THE RT. HON. STANLEY BALDWIN, LL D., D.L., M.P.
THE RT. REV. E. W. BARNES, M.A., Sc.D., F.R.S., F.R.A.S.
†F. C. BARTLETT, M.A.
SIR HUGH BELL, BT., C.B., D.L., D.C.L., LL.D.
SIR WILLIAM BEVERIDGE, K.C.B., M.A., B.C.L., LL.D.
HIS HIGHNESS PRINCE ANTOINE BIBESCO.
†C. D. BROAD, M.A., Litt.D., F.B.A.
†W. BROWN, M.A., M.D., D.Sc., F.R.C.P.
THE RT. HON. THE VISCOUNT BURNHAM, M.A, D.Litt., LL.D.
E. T. CAMPAGNAC, M.A.
THE RT. HON. J. G. COATES, M.C., M.P.
SIR MARTIN CONWAY, M.A., Litt.D., F.S A., F.R.G.S., M.P.
†H. CRICHTON-MILLER, M.A., M.D.
PROF. WINIFRED C. CULLIS, O.B.E., D.Sc.
THE MOST REV. CHARLES F. D'ARCY, M.A., D.D., M.R.I.A., F.B.A.
THE RT. HON. THE LORD DAWSON OF PENN, P.C., K.C.M.G., G.C.V.O., K.C.V.O., M.D., B.Sc., F.R.C.P.
PROF. W. G. DEBURGH, M.A.
G. LOWES DICKINSON, M.A.

* By the Memorandum of Association, a member of Council on accepting lectureships with fees *ipso facto* ceases to be a member of the Council or Governing Body, and shall only be eligible for re-election after he shall have ceased to hold such office. This provision applies to those original members of Council whose names appear in the syllabus as lecturers for the Session 30–31.

† *Members of the Executive Committee.*

MEMBERS OF COUNCIL

SIR A S EDDINGTON, M A , M Sc , F R S
PROF BEATRICE EDGELL, M A , Ph D., D Litt
SIR CHARLES ELLIS, K C B , G B E.
THE RT HON H A L. FISHER, LL D., D.Litt , F B A , F R S , M P
THE REV ALFRED E. GARVIE, M A , D D
†M GINSBERG, M A , D Litt
SIR W. GUY GRANET, G B E
COMMANDER LOUIS GREIG, C V O , M B , Ch B.
SIR ROBERT A HADFIELD, BT., D Sc , F R S.
SIR HENRY HADOW, C B E., M A , D Mus , LL D., F.R S L
J. S. HALDANE, C H , M.A., LL.D , F R S
C. R. S HARRIS, M A , D Phil , Ph D.
SIR HENRY HEAD, M D , LL.D , F R S
PROF. H. J. W HETHERINGTON, M A , LL.D
W L HICHENS, M A
†PROF G DAWES HICKS, M A , Ph D , Litt D , F B A
†JOHN A HOBSON, M A.
SIR JOSEPH HOOD, BT
THE RT HON SIR ROBERT S HORNE, G B E , K C , M P
†PROF. JULIAN S. HUXLEY, M A
THE VERY REV W R. INGE, D D , D Litt , F B A
THE REV. L P. JACKS, M.A , LL D , D Litt
†PROF. F. B. JEVONS, M A , Litt D.
M W KEATINGE, M A , D Sc.
J. N. KEYNES, Sc D.
PROF. J. LAIRD, M A
SIR JOSEPH LARMOR, Sc D , D Sc , LL D , D C L , F R S.
†PROF. HAROLD J. LASKI, M A
KENNETH LEE, LL D.
†A. D. LINDSAY, C B E., M A.
†SIR LYNDEN MACASSEY, K C., M.A , LL D , D Sc.
THE RT HON J. RAMSAY MACDONALD, LL D , M.P.
PROF. JOHN S MACKENZIE, M A , Litt D , LL D.
SIR W LESLIE MACKENZIE, M A , M D , LL D
THE RT HON LORD MACMILLAN, K C , M A , LL D.
†PROF JOHN MACMURRAY, M A.
PROF. C. LLOYD MORGAN, D Sc , LL D , F.R S.
†PROF. J. H. MUIRHEAD, M A , LL D.
PROF GILBERT MURRAY, LL D , D Litt , F B A.
†CHARLES S MYERS, C B.E , M.D., Sc D , F R S.
†HILDA D OAKELEY, M A. D Lit
PROF. T. H. PEAR, M A., B Sc.
THE RT HON LORD EUSTACE PERCY, M A , M.P.
SIR WILLIAM PLENDER, BT , G.B.E , LL D , D L.
THE RT HON THE MASTER OF THE ROLLS (LORD HANWORTH, K B E)
PROF. CARVETH READ, M.A.
L ARNAUD REID, M A , Ph.D
THE RT. HON. THE VISCOUNTESS RHONDDA.
THE RT. HON LORD RIDDELL.
PROF. WILLIAM ROTHENSTEIN, M A , A R C.A.
†THE HON. BERTRAND RUSSELL, M.A., F R S.
†THE RT HON SIR HERBERT SAMUEL, G C.B , M P
F. C. S. SCHILLER, M.A., D.Sc., F.B A.
PROF J W. SCOTT, M A., Ph D.
A F. SHAND, M A
†SIR CHARLES SHERRINGTON, O M., G B E , M.A , M D , D Sc , F.R S.
†MAY SINCLAIR
†THE RT. HON. LORD JUSTICE SLESSER, K C.
PROF. J. A. SMITH, M.A , LL.D.
GENERAL THE RT. HON. J C. SMUTS, P.C., K C., C.H , M.L A
PROF. W R. SORLEY, Litt D., LL D., F B.A.
†PROF. C. SPEARMAN, Ph D , F.R S.

† *Members of the Executive Committee.*

†L. Susan Stebbing, M.A.
Prof. J. L. Stocks, D.S.O., M.A.
Sir Edwin F. Stockton.
Sir Oswald Stoll.
Prof. G. F. Stout, M.A., LL.D., F.B.A.
Prof. C. A. Strong, LL.D.
Prof. A. E. Taylor, M.A., D.Litt., F.B.A.
The Most Rev. William Temple, M.A., D.Litt., D.D.
†Prof. F. W. Thomas, C.I.E., M.A., Ph.D., F.B.A.
Prof D'Arcy Wentworth Thompson, C.B., D.Litt., F.R.S.
Prof. Sir J. Arthur Thomson, M.A., LL.D.
Sir J. J. Thomson, O.M., D.Sc., LL.D., P.R.S.
The Rev. Leslie J. Walker, S.J., M.A.
Prof. Clement C. J. Webb, M.A., LL.D., F.B.A.
Sir Ralph L. Wedgwood, C.B., C.M.G.
Prof. E. A. Westermarck, Ph.D., LL.D.
Dorothy Wrinch, D.Sc.
Sir Alfred F. Yarrow, Bt., LL.D., F.R.S.

OBJECTS OF THE INSTITUTE

The British Institute of Philosophical Studies exists to bring leading exponents of various branches of Philosophy into direct contact with the general public, with the purpose of satisfying a need felt by many men and women in every walk of life for greater clearness and comprehensiveness of vision in human affairs.

With this broad educational purpose in view, the Institute—

(1) Provides at suitable times in the day and evening courses of lectures by leading exponents in the more important subjects coming within the scope of Philosophy. All branches of Philosophy are represented—Ethics and Social Philosophy, the Philosophy of Law and of the Sciences, of the Fine Arts and of Religion, as well as Logic and Metaphysics and Psychology. These lectures are free to members.
(2) Issues a quarterly philosophical Journal (free to members).
(3) Proposes to form a philosophical Library.
(4) Gives guidance and assistance to individuals in their philosophical reading.
(5) Encourages research in Philosophy.
(6) Offers the facility of a Common Room for social intercourse.

Those desirous of becoming members of the Institute are invited to apply for further particulars and forms of application to the Director of Studies, University Hall, 14, Gordon Square, London, W.C.1.

† *Members of the Executive Committee.*

TWO OUTSTANDING BOOKS

THE CONQUEST OF HAPPINESS

By BERTRAND RUSSELL

"Beautifully planned and written. . . . The author knows just what he wants to say, and says it brilliantly. . . . A definitely helpful book, and one that should be kept and consulted in those dark hours that beset us all."—*Spectator.*

Second Impression 7s. 6d.

NUMBER: THE LANGUAGE OF SCIENCE

By TOBIAS DANTZIG, Ph.D.

An admirable exposition of the fundamental philosophical ideas which have revolutionized mathematical thought during the past twenty years.

Illustrated 10s.

GEORGE ALLEN & UNWIN LTD



A WONDERFUL LENDING LIBRARY

Nearly 10,000 works on

Theosophy Magic Philosophy Occultism
Science Religion Therapeutics Psychology

OPEN TO THE PUBLIC

Subscription Terms (2 vols)
12 months 15/-
6 months 10/-
3 months 5/-

Apply Librarian.

Books by post. Catalogue 1/8 post free.

THE LENDING & REFERENCE LIBRARY of the
THEOSOPHICAL SOCIETY IN ENGLAND
45 LANCASTER GATE, LONDON, W.2

JOURNAL OF PHILOSOPHICAL STUDIES

CHARGES FOR ADVERTISEMENT SPACE

Page	3 Guineas
Half-page	£1 15s.
Quarter-page	20s.

Orders or space should be sent to

MACMILLAN & CO. LTD., ST. MARTIN'S STREET, LONDON, W.C.2

TEXTS TO ILLUSTRATE A COURSE OF ELEMENTARY LECTURES ON GREEK PHILOSOPHY —AFTER ARISTOTLE

Selected and Arranged by J. ADAM, M.A , Hon LL.D *Second Edition.* 6s *net.*

THE ELEMENTS OF LOGIC

By ROBERT LATTA, M A , D Phil., LL D., Emeritus Professor of Logic and Metaphysics in the University of Glasgow, and ALEXANDER MACBEATH, M A , Professor of Logic and Metaphysics in Queen's University, Belfast. 6s.

STUDIES AND EXERCISES IN FORMAL LOGIC

Including a Generalisation of Logical Processes in their Application to Complex Inferences

By JOHN NEVILLE KEYNES, M.A., Sc.D., Honorary Fellow of Pembroke College and formerly University Lecturer in Moral Science in the University of Cambridge. *Re-issue.* 12s. 6*d. net.*

OUTLINES OF METAPHYSICS

By JOHN S. MACKENZIE, Litt.D., LL.D., Author of "A Manual of Ethics," "Elements of Constructive Philosophy," etc. *Third Edition, Revised.* 5s.

A BEGINNER'S PSYCHOLOGY

By Professor E. B. TITCHENER. 6s. 6*d.*

SYSTEMATIC PSYCHOLOGY: PROLEGOMENA

By Professor E. B. TITCHENER. 10s. 6*d. net.*

MAN AND THE IMAGE OF GOD

By HUBERT M. FOSTON, D.Lit. (Lond.). 7s. 6*d. net.*

HUMAN VALUES AND VERITIES

By Dr. HENRY OSBORN TAYLOR, Author of "The Mediæval Mind," "Ancient Ideals," "Thought and Expression in the 16th Century," etc. 8s. 6*d. net.*

THE FUNDAMENTALS OF HUMAN MOTIVATION

By LEONARD T. TROLAND, S.B., A.M., Ph.D., Assistant Professor of Psychology, Harvard University. 21s. *net.*

NEW VIEWS OF EVOLUTION

By GEORGE P. CONGER, Ph.D., Associate Professor of Philosophy, University of Minnesota. 10s. 6*d. net.*

CONTENTS

		PAGE
I	PURPOSE IN EVOLUTION Sir J Arthur Thomson, M A , LL D	153
II	SCIENCE, HISTORY AND PHILOSOPHY Professor Guido de Ruggiero	166
III	THE ERRORS OF SIR ARTHUR EDDINGTON. Norman Campbell, Sc D	180
IV	IMAGINING AND REASONING Professor H Wildon Carr	193
V	RIGHT AND GOOD THE LIMITS OF ETHICS Professor W G de Burgh	201
VI	HYPNOTISM AND SUGGESTION William Brown, M D , D Sc	212
VII	PHILOSOPHICAL SURVEY	
	PHILOSOPHY IN ITALY	221
	PHILOSOPHY IN RUSSIA	225
VIII	NEW BOOKS	229
IX	CORRESPONDENCE	275
X.	INSTITUTE NOTES	276

PRINTED IN GREAT BRITAIN
BY UNWIN BROTHERS LIMITED
LONDON AND WOKING

PHILOSOPHY

THE JOURNAL OF THE BRITISH INSTITUTE OF PHILOSOPHICAL STUDIES

VOL. VI. No 22. APRIL 1931

PURPOSE IN EVOLUTION

SIR J ARTHUR THOMSON, M A., LL D.

AGE after age, and often from the depths of human nature, the question has arisen whether there is some transcendental Purpose in the making of the world. Is there some recondite meaning in it all, and if so, can we get any glimpse of what it is? More especially, is it legitimate to say that Nature is Nature for a Purpose? Was there a Purpose, or something dimly analogous to a Purpose, in the origination of the process of Evolution? Is Evolution permeated by or immediately controlled by Purpose? Or does it simply express a purpose which determined its direction from the first? We know a little about the tactics of Evolution, but is there a strategy? If not, why are we always groping after it?

It is evident enough that Science as such never asks whether there is a purpose in Evolution. That is not its métier, nor is the question answerable by its methods. The question is philosophical or religious. Science asks What, whence, how, and whither, but never the deeper "Why?" Yet it is possible that Science may make contributions which help us towards a synoptic or philosophical answer, if we are inclined to the search.

But while Science does not inquire into ultimate Purpose, it is perhaps useful to delay a little to notice that the general idea of purpose is legitimate in scientific inquiry, and cannot be dispensed with. We may avoid the word, but we cannot do without the idea. I shall be content with one illustration—from Ecology, where the issue is clearest.

Purpose as a Factor in Everyday Life

Of many a human day's work it is impossible to give a scientific description without taking account of the man's purpose. There is a forward looking, often warmed with emotion, that leads him to adjust his actions towards an end in the future. The purpose is a *vera causa* with hands and feet. An omniscient chemist might make a ledger of all the oxidations and reductions, hydrations and dehydrations, fermentations, and adsorptions that bring a lecturer to a particular platform; and an omniscient physiologist might tell of all the nerve-impulses and muscle-contractions, sensory stimuli and conditioned reflexes, and so on and so forth, that were concerned in the translocation; yet, after all, the appearance of the lecturer cannot be accounted for unless his purpose be recognized. In many human activities there is actually operative purpose—often conceptual, sometimes perceptual, often habitual, sometimes only a flash; but some sort of purpose there is.

Similarly with many activities among higher animals, we cannot make sense of them scientifically unless we admit an operative perceptual purpose. Even though it be only a mental picture coloured by desire, it counts. The chimpanzee whittles a stick with its teeth till it is slender enough to fit into the hollow of a bamboo rod, making out of two sticks one long enough to reach the desired fruit outside the cage. A dog goes off for a mile along the highway to reach a spot where it was baulked of a rabbit yesterday. The beavers spend weeks of co-operative industry in cutting a canal which is of little use until it is finished. Among higher animals there is perceptual purpose, and it counts. There is purposeful behaviour, comparable to our own, though much simpler.

When we pass to predominantly instinctive animals, our description becomes less convincing, but that is partly because we have not as yet enough of information, though partly because man finds instinct foreign to his experience. Some worker-bees resting in the hive are roused by the nectar dance in which a successful incomer indulges on the honeycomb; they crowd around her, get the olfactory clue of, say, clover, and off they go on the search. Some tailor-ants take their grubs in their mouths and dab them like animated gum-bottles against leaves held close together, so that these are firmly fastened with the silken threads which the larvæ produce. A Queensland spider hangs itself on a thread from a twig, and makes a short lasso with a viscid globule at the end, which it throws dexterously on a passing moth, afterwards drawn in and sucked. There are hundreds of such cases, requiring, of course, very careful discussion, but my point at present is simply that they are more than suggestive of a low grade of half-automatized purposiveness. The terminology will

come right by and by, but is there not in many cases, until the automatization goes very far, something of the nature of a consciously bent bow of endeavour, some instinctive purposiveness, though we may not dare say purposefulness. Even when the racial automatization has gone very far, as it often does, we must not forget the long period during which the creature was testing its inborn inspirations, and playing its hand of hereditary cards. May we not say that there is a good case for believing in instinctive purposiveness?

Some of my biological friends, for whose investigations I have due respect, even when I think their conclusions are erroneous, maintain that the word purpose does not belong to the scientific dictionary. I agree as regards transcendent purpose, which is obviously beyond Science, but I profoundly disagree as regards great stretches of animal behaviour, of which I cannot make sense without the hypothesis that some subjective or psychical activity, analogous to our purposing, operates as a real factor. If this be granted for higher animals, the difficulty is to know where to stop; and here one should be patient. What is one to make of an individual starfish that tackles a small sea-urchin with one arm after another, and disarms it by wrenching off the snapping-blades or pedicellariæ, the result being that the aggressor can protrude its elastic stomach over its victim. And yet the starfish has not a single nerve-centre in its body, only strands and networks of nerve-cells Purposeful, no; purposive, yes.

Passing to still simpler organisms, we need the concept of purpose less; but can we do without it altogether? Take the careful account Jennings gives of an amœba pursuing a smaller amœba, overtaking it, engulfing it, losing it, turning on its course, capturing it again, losing it again—and there the story stops We must be careful, Spinoza said, not to be too sure of what the body as body may not do; and most of us shrink from giving the tendril-bearing Bryony or the insect-catching Fly-trap credit for "purpose" even in inverted commas. On the other hand, there is much to be said for a temperate pan-psychism. If we were on the mud of the pond and minified a thousand times, while an amœba magnified a thousand times drew near with its eerie tank-like movement, it is not likely that we should act on the hypothesis that it had no purpose.

Thus we reach the idea, obvious but often ignored, that insurgent organisms share in their own evolution, not in the sense of working towards a racial ideal, for man alone is fit for that, but in the sense of endeavouring to make the most of things and to express themselves in obedience to the universal urge of life—*the urge for more*, more food, more room, more light, more love, more life. Life in evolution is interpenetrated with Purpose!

The Teleological Idea in Physiology and Embryology

So far, then, I have ventured without argument to state the impression left by many happy years as a field-naturalist, that the concept of immediately operative purpose is indispensable. It is often conceptual purpose in man, perceptual in higher animals; it may be instinctive or merely organismal purposiveness; but some sort of purposing there is.

Now before we pass to our larger theme it may be useful to indicate that it is very difficult in physiology and in embryology to dispense with some form of the teleological idea. That is to say, the description is inadequate without reference to an end or outcome.

Turn for a minute or two, and very simply, to physiology. On a holiday we watch a crofter cultivating his fields and perhaps gathering a sparse harvest from the sea. What he does is self-contained and reasonable in itself. But on our way home we watch a busy operator in a shunting-room, doing nothing hour after hour but attending to signals and pulling levers. His activities are not intelligible except as part of an organization, and as making towards certain results, not always very immediate. So in some simple animals and simple corners of animals we may study activities, self-contained and self-justifying like the crofter's, but most animal activities are incomprehensible except as contributory to the whole life of the integrate of which they form a part. Physiology requires to be teleological in this wide sense, that the working of the parts, like those of a machine, cannot be understood unless they are considered in relation to one another and in relation to the whole. This is soon supplemented by dynamical or chemico-physical, or by distinctively physiological formulations; and it may be that the story is not completed without recognizing psychical factors as well—the *esprit de corps*. How many kinds of formulations are necessary is a question for discussion—one, two, or three—but my present point is that the physiologist, even if mechanist, must start with recognizing the organism as teleological.

Another study in which the teleological idea seems indispensable, not as an operative factor, but as part of the story, is development. One can never forget watching the development of a translucent embryo, witnessing in the course of a day a long series of movements and differentiations. One focusses on the problem all one knows—about cell-divisions, laws of cell-arrangement, mutual pressures, metabolic gradients, liberations of the latent action of regulators and organizers; one thinks of the egg-cell rich in initiatives dating from a distant past, and one works with the idea of a succession of liberating stimuli from within and from without, and so on and so forth. But can we leave out of our description the fact that the

development looks *as if it were* purposive, as when it moves circuitously towards a result, or when it builds up an organ only to break it down again, or when it stops, de-differentiates, and begins again. Without raising the question whether there is not always a psycho-biosis as well as a bio-psychosis, we are simply asking the embryologist whether he can dispense with teleological description. It was von Baer who said. "the whole course of development is nevertheless ruled and guided by the essential nature of the future organism"—a fact, he added, which may be demonstrated by observation. Those who are fond of the risky machine analogy in physiology must admit that it does not become easier in embryology, for the embryo-machine makes itself as it goes on, often takes itself in part or whole to bits and begins again, and often lays down before it finishes with itself a stock of little machines for the next season's sales.

Adaptations

Romanes, who was a shrewd naturalist, once said that "wherever you tap Organic Nature it seems to flow with purpose." As he was a sound Darwinian, it is likely that he mentally italicized *"seems to"*; but he was alluding to a fact—the abundance of adaptations in organisms. As Weismann said, When you take away all the adaptations from a whale, there is not much left. All complex organisms are bundles of fitnesses, and it is worth re-reading Darwin's account of the numerous mutual adaptations of bee and orchis, partly to realize afresh what an eloquent fact adaptation is, and partly to notice that Darwin found it a little difficult not to talk like Paley. From the widespread fitnesses and their extraordinary nicety, Paley inferred the direct action of a Divine Artificer—an uncouthly materialistic picture. But the edge was taken off Paley's argument when Darwin showed that it was possible, in terms of variability, heredity, and selection, to give a naturalistic account of the way in which the orchis and the bee had come to be so well suited to one another. It remains possible, however, to think of a Creative Purpose that so endowed the primitive irreducibles that they included for all their descendants the capacity of evolving fitnesses. This wider concept of Creative Design is expressed in the words that Charles Kingsley put into Dame Nature's mouth, as she sat so puzzlingly at leisure: "You see I make things make themselves." Thus did the genius of the Creator save the evolving world from the shackles of determinism, and yet secure the climax in the first act of the drama.

Those who point out that the thousand and one adaptations are marvellous, and cannot have arisen by chance, are repeating Darwin's own words; but to use the word "chance" nowadays in its popular sense in this connection is a verbal fallacy. There is very little

fortuity in variation, and almost none in Natural Selection, which sifts those saying Shibboleth from those saying Sibboleth.

Does Organic Evolution Express a Purpose?

We turn now to the philosophical question—if we only knew how to put it—Are there aspects of evolution that suggest an initial purpose? Has the whole been thought out and endowed in reference to an end? Is evolution the realization of a Creator's thought, or will, or imagination, or purpose? Of course, all our words are necessarily but adumbrations when we are thinking of "the mind that was in the beginning, without which there was nothing made that was made." Not absolutely beyond us, however, for that mind "was life, and the life was the light of men."

It does not seem to be even thinkable to try to *prove* scientifically that there must have been a plan in the Institution of the Order of Nature. That would be the fallacy of transcendent inference, with a conclusion far too big for the premisses; and in any case, it is not what Science is after. My mood is to be more patient and to care little what words are used so long as we do not lose the Open Secret that there is behind all Evolution a Supreme Reality, of whose Spirit it is an expression. Un dieu défini, c'est un dieu fini—like the Divine Artificer. But age after age Science has helped man to a finer vision of Him in whom we live and move and have our being; and Science with its newest and grandest world may be able to help us even now with contributions of fact and formulation towards the answering of our philosophical or religious question: *Is there a Purpose in Evolution?*

Science submits numerous data which are eloquent when considered together. Attention has often been drawn to the orderliness of Nature, that we live in a Cosmos. The concept of "a fortuitous concourse of atoms" has been given burial at last. The fortuitous dwindles as Science grows. Yet while you admire the orderliness of Nature, it may be asked whether there could ever have been disorder in anything that lasted. So perhaps a better way of stating what is rather a consideration than an argument is just that Nature becomes increasingly intelligible, making scientific description more and more possible, extensively and intensively; and the fact of Science—of Science that would not have been if the Earth had been beclouded—is difficult to think round without assuming that in the beginning was Mind. As Aristotle used to say, there can be nothing in the end of a process which was not also present in kind in the beginning.

To much of the orderliness of Nature, what can we say except that the order is what must be. Similarly I am a little afraid of enthu-

siastic arguments, including my own, from the practical omnipresence of beauty in Animate Nature. This is a big fact, but in the majority of cases, the beauty, defined as that which evokes the æsthetic emotion, has an *inevitable objective basis. There is no alternative* in many cases, for the beauty depends on the ripple-marks of orderly growth, or the by-products of orderly metabolism, or the outcome of strenuous *eurhythmic movement. The larger fact to my mind is that the process* of organic evolution should have been such that it evolved with singular patience, so to speak, a type of being who found in the *qualities of natural objects, not only a delight, but an inspiration.*

What often happens is that the beauty of living things becomes meat and drink to us. It sometimes fills our cup so generously that, straining at the end of our emotional reach, we become religious, overwhelmed by the sacredness of the testament of beauty The beauty of the world, especially of Animate Nature, is included in the well-thought-out plan; but we see this most clearly after we have drawn the conclusion to which it points. When we impatiently seize upon some puzzling conclusion of our temporary balance-sheets, *e.g.* that all the physical universe is like a clock running down, which would be more dispiriting if it were less leisurely, we are probably suffering, oftener than not, from insufficient data. As an authority, unembarrassed by opinion, said the other day, "Gain of entropy always means loss of information and nothing more."

We have to face a practical dilemma. On the one hand there is the risk of shutting our eyes to obvious rays of light, like orderliness and beauty, and on the other there is the risk of trying to press too big a conclusion out of the premisses. The order of Nature is doubtless greater than our greatest thought of it, yet there follows too facilely the mis-inference that it is all being purposefully kept in order now. The Divine Artificer has been exchanged for a Divine Bureaucrat. The beauty of Nature is greater than we have yet discovered, yet there follows too facilely the mis-inference that the Creator paints the lily and adorns the rose. The Divine Artificer has been exchanged for a Divine Decorator. This won't do, for our vision of God, which Science has its share in refining, cannot be out of harmony with a naturalistic description of the world, that is to say with describing outcomes as the natural and necessary resultants, emergents if you like, of the verifiable operative factors resident in the material. It seems to me inconceivable that Science should ever go back from this ideal of naturalistic description; but that does not in the least imply that we need refrain from idealistic, transcendental, mystical, or religious *interpretation*—the only kind of interpretation there is.

We turn now, beyond orderliness and beauty, to some other

aspects of Evolution which suggest a Purpose in the unthinkable Beginning.

The Uniqueness of the Earth

I am not competent to grapple with the thought that flits through our minds that our earth is extraordinarily unique. We are not sure that there is any place except the earth where there could be protoplasmic forms of life such as we know, and we need not delay over hypothetical forms of life which we cannot imagine. All the organisms we know require water in fluid form, and that restricts life to a narrow range of low temperature. Nine-tenths of the matter in the universe is at temperatures in comparison with which 1000° C. would be relatively cool. We do not know of many planets altogether, though there may be more than we know of; and while it is indeed difficult to believe that conscious life is restricted to the earth, we do not know of any other possible homes, unless Venus and Mars are possible.

Preparations in the Inorganic World

Preparation for prospective results is not a scientific concept, except in the doings of organisms, intelligent animals in particular, as when marmots store for the winter. Yet Professor L. J. Henderson in his *Fitness of the Environment* has indicated many features in the Inorganic World which look like preparations for organisms. At a certain time there came to be—given the antecedents there had to be—abundant supplies of carbon, hydrogen, and oxygen near the surface of the earth, and these are the fittest elements for originating diverse and durable chemical systems, including organisms. At a certain time there came to be—given the antecedents there had to be—a meteorological cycle of water, and in half a dozen ways this opened the doors to life.

We must recall the fallacy of inferring Providence from the thoughtful way in which great rivers flow past large towns; and it has been said that if there had not been abundant availability of carbon, hydrogen, and oxygen, and of liquid water, there might have been alternative organisms well prepared for by alternative environments. But we cannot imagine any alternative forms of life. So we may agree with Henderson that the primeval environment is "only fully intelligible, even when mechanically explained, as a preparation for the evolutionary process"—as, in short, teleological.

Preparations in Organic Evolution

I have admitted that the idea of "preparation" is not scientific except when we are dealing with cases like a bird preparing a nest

or a meal. Yet there is much in Organic Evolution that suggests *pre-arrangements making* subsequent steps of progress secure. It is salutary to be again reminded of the noble rivers running past the big towns, but there is more in it than that. The green plants make the breathable air; they make food enough to support themselves and the animal world, the continuance of life is almost unthinkable without bacteria; *the welter of Plankton organisms makes fishes* possible and fishermen too, perhaps the emergence of Amphibians, leading on to higher forms, was made possible by an almost unique property of water, that of having its maximum density a little above *the freezing-point; and so on at length.*

We are not saying that Plankton organisms evolved in order that there might be a Billingsgate; we are simply referring to the fact that the multitudinousness of the minute crustaceans in the sea, depending on the still greater multitudinousness of Infusorians and Diatoms, ensured the success of higher forms of life. Broad foundations were laid which made a lofty superstructure possible. There is a Systema Naturæ; and it looks as if the whole of Evolution had been well thought out, as we say fumblingly. In other words, we ask *whether naturalistic description and teleological interpretation are* not complementary ways of looking at Nature. No doubt, if the first floor of the great edifice grew from the ground floor, and if the ground floor grew out of the foundations, and if there are automatic ways of *preventing the superstructure from becoming top-heavy, and so on,* there is no need for an intervening master of works; but as we dwell on this evolutionary idea, we come to have a very high respect for the foundation-stones.

Circuitousness in Evolution

Those who are in a hurry have sometimes said that if the nisus or urge of Organic Evolution was *initiated with a Purpose, oriented* towards a distant goal, namely Man, it should have been more direct in its working-out, whereas it is remarkable in its circuitousness. Working towards an end! yet spending a million years in fashioning a feather; working towards an end! yet *filling the stage for millions* of years with types and even races that have left not more than fossils behind. Yet it may be that this was part of the fine strategy! Millions of years of tentatives, but the outcome a stable, reliable, balanced Systema Naturæ, a fulcrum on which Man can move the world. Struggles, and failures too, for millions of years, but with the result that the endeavour after well-being becomes a habit. Delays, eddies, retrogressions, blind alleys, and worse, yet evolution is on the whole integrative. Delay matters little if it meant that *the door of* choice was kept open. Though automatization is one of Nature's

methods, the process is more markedly a story of emancipations—as Lotze said, "an onward-advancing melody." Russell quotes from Von Baer's essay on "Nature's most general law in development and evolution," the conclusion that the ultimate law of all creative processes is "the progressive victory of spirit over matter." There must be, one cannot help thinking, some evolutionary urge or nisus, élan, or impulse, rather subtler than has been yet analysed into either mechanical or chemical or biological terms. I mean nothing mystical, but something more than tendencies to aggregate, to colloidify, to incorporate, to grow, to multiply, and so on, with all the involved catalysts, hormones, and organizers—I mean a psychical urge, the subjective side of endeavour. In any case, we see, with Emerson, the worm mounting through all the spires of form, striving to be man; and in man's nearer pedigree, through tentative men, beginning with the Chinese Sinanthropus, quaintly called the Man of Sin, we see a zigzagness as striking as the persistence.

Progressive Evolution

Evolution is sometimes backwards and sometimes in an eddy—neither suggestive of purpose. But on the whole, evolution discloses progressive differentiation and integration, the emergence of types with greater fullness and freedom, an increasing dominance of the mental aspect, a growing freedom of mind. There are successive syntheses that make things new—such as atom, molecule, micella, cell, multicellular organism, cerebrate animal, intelligent animal, man, society. There are successive emergences, as Lloyd Morgan calls them, more than merely additive resultants. There is what Smuts calls, not very euphoniously, a hierarchy of wholes. The larger steps, such as living organism, intelligent animal, rational man, human society, imply that the evolutionary urge takes a new form, it is raised to a higher power, and that we thus need new descriptive formulæ. Whenever, for instance, there is a genuine human society, a description in terms of individual units is inadequate; the social heritage *inter alia* has to be taken account of. So it is, we believe, with many of the larger steps in evolution. Even water changed the whole world. From the teleological point of view, then, evolution may be described as a series of progressive syntheses, which allow of novel expressions of the richness inherent in reality.

Conservatism in Evolution

Not to be overlooked, and with an interesting teleological suggestiveness, is what may be called the conservatism of evolution. We have just been speaking of new departures, but there is also a

tenacious holding fast of that which is good, even though the strands may enter into the fashioning of a quite novel fabric. Hæmoglobin, the valuable oxygen-capturing pigment of the blood, makes its first appearance in the Nemertines, unsegmented worms of low degree. Many higher animals are without it, but it was too good to lose; it is conserved along some lineage or other, till it comes to its own in Vertebrates. The two most important pigments are chlorophyll and hæmoglobin, the former doubtless with priority Is it not significant that their molecules should show a remarkable resemblance in each having four pyrrol rings united by a single metallic atom, magnesium for chlorophyll, iron for hæmoglobin? The primitive mode of locomotion called amœboid appears very early; we see it still in our phagocytes, in many a young egg-cell, and in the growing end of a nerve-fibre as it feels its way out from the brain or spinal cord of the Vertebrate embryo. There is a remarkable conservation of gains; the entail is not readily broken. Man is not only the Crown of Creation, he is also in some ways its Epitome. He is musical—partly because amphibians croaked 300,000,000 years ago; he is a painter—partly because chamæleonic reptiles thrilled to colour; he is gentle—partly because mammals gave milk to their tender young.

We think of Evolution too unimaginatively. We do not, for instance, sufficiently realize the teleological interest of great trends that are, as it were, anticipatory of man's higher values—the true, the beautiful, and the good. For there are prolonged pre-human trends in favour of nimble wits, clear-headedness, and facing the facts; also trends in favour of beauty and its appreciation; also trends in favour of the primary virtues like courage and affection. T. H. Huxley notwithstanding, we discern a momentum in animal evolution which is in a line with man's most progressive movements. What hope there is for man in what Julian Huxley has told us of the way in which some bird-mates engender psychical attractions which raise physical fondness to affection, and last when the honeymoon is no more than a memory, if that.

Man—the Present Climax of Creation

What is at present the climax of evolution? Is it not represented by a civilized community of healthy-bodied, healthy-minded, kindly, good-looking people, with a noble social heritage which they use and enjoy, living industrious, prosperous, joyous lives, which are increasingly satisfactions in themselves, with a growing embodiment of the true, the beautiful, and the good, and with successors also healthy, wealthy, and wise? Can we say that the original purpose of the institution of the Order of Nature was to lead on to this and to what reasonably lies beyond? For there is no warrant for supposing

that Evolution will soon stop. Is the climax fine enough to give some confidence in answering the question, which many brush aside as unanswerable: Was there a purpose in Evolution? Charles Darwin thought so when he was writing the *Origin of Species*, when he said that he deserved to be called a theist; but gradually this conclusion weakened, and he said that he must be content to remain an Agnostic, deeply doubtful of man's ability to draw general conclusions on the subject. His cousin Francis Galton was almost equally immune to metaphysical speculation, but he seems to have believed in a recondite purpose in the Universe. As his biographer says: "Increased vigour of mind and body appeared to him the aim of the power which we seem to discern working obscurely, and as if with difficulty, behind the apparently blind forces of Nature."

The object of my discussion has been to ask whether this apparent blindness of Nature's workings in the realm of organisms is not largely a bogey. It is grotesque to call Organic Evolution "a chapter of accidents." The fortuitous has shrivelled before increased knowledge; there is much definiteness in organic variation; and Natural Selection is discriminate sifting in reference to an already established Systema Naturæ. We have also noted a number of features that are in harmony with the trans-scientific idea that the Order of Nature was originally endowed in a way that we should call in human affairs well thought out. There seems to be a steady, though inconceivably slow, advance of life from monad to man, and man—even now—is no anti-climax. Of course, one is thinking of man as a social being, man with his science and art, ethics and religion, all to be included as outcomes of the original institution of the Order of Nature, not of course in any wooden portmanteauish way, but in a way that secures organismal freedom in more or less degree throughout. And if man be pictured as one of the ends of the sublimely patient process, or as an instalment of one of the ends, an end that crowns the work, it is not illegitimate to look backwards, just as biologically minded Birds might on their Reptilian ancestors. The whole process of evolution has been such that it has had as its highest outcome a human society at its best. We have become accustomed to consider Man in the light of evolution, solidary with the rest of creation, but do we often enough try to envisage evolution in the light of Man—of Man at his best?

If, for various reasons which do not concern us just now, we are theists, we do not doubt the purposefulness of Evolution. That is part of what "believing in God" means. But our present study has kept to what is called the Natural Theology point of view, and our question has been: Is the idea of purpose congruent with the scientific facts? nay more: Do the scientific facts in any way suggest the interpretation that Nature expresses a purpose? Our

answer has been in the affirmative, and since the scientifically known system of Nature, being largely unconscious, cannot be credited with a purpose, we are led to think of a Creator's Purpose.

Soon, however, further difficulties arise. Has there been detailed guidance and control throughout? or was the whole outcome, including its freedom to evolve the new, implied in the unthinkable creative Origination of the Order of Nature?

The theory that there has been purposeful guidance throughout the ages has to face great difficulties. It suggests imperfections in the original irreducibles if subsequent spiritual influxes, as Alfred Russel Wallace called them, have been from time to time necessary to help things and organisms over difficult stiles. Moreover, the insinuation of operative transcendental factors is apt to mean a relapse in both religious and scientific development. As Dean Inge puts it: "Only a cosmos which seems to be sufficient to itself can be conceived of as having been created by God."

The other theory is that the purpose and urge were potentially expressed in the beginning, in the creative institution of the original Order of Nature, as a garden's beauty in its sown seeds. As Paul Janet says: "That which is precisely most worthy of God is to have made a Nature which creates itself." A divine purpose may have been realized in the world-process by endowing the original irreducibles with the capacity of progressively working out their destiny in a relatively free way, so that the evolution has from time to time a quality of creativity. It would be altogether unfair to this theory to charge it with the crudity of picturing a world launched into space in independence of the Creator. That *ex hypothesi* is one of the things God could not do; but in regard to His abiding relation with His creation I am not inclined to speak, though one has, of course, one's thoughts.

For I must end by saying that if there is a purposefulness behind Evolution, and if man is an instalment of one of the purposes, it may be our most urgent and practical duty to try to discern more of the great evolutionary trends so that we may assist in the fulfilment of more of the purpose. We must study the tactics, so that we may share more fully in the realization of the strategy.

SCIENCE, HISTORY AND PHILOSOPHY

PROFESSOR GUIDO DE RUGGIERO.

CONTACTS between Italian and English thought of late years have been both frequent and effective. One need only recall the English interest in Croce's philosophy and the popularity of works by the English idealists in Italy. But the post-Bradleian philosophy as a whole—modern English realism, as we may call it, for the sake of a name—is little known in Italy, and this is a serious omission; for with this movement English thought reverts to its traditional orientation towards the problems of natural science, while Italian philosophy, following its own tradition, continues to concentrate, with increasing definiteness, upon those of history.

This is a parting of the ways whose importance for the future of European speculation is very great. The present divergence is rooted in a profound opposition between two types of mentality. Theory of science and theory of history are the two great alternatives which have presented themselves in the past, and still present themselves to-day, to European thought. On the one hand, the Kantian-Newtonian type of mind, persisting, in spite of all differences, in all those mental tendencies which have been grafted upon the stock of natural science; on the other, the type of mind characteristic of the Romantic movement, holding firmly to the course of historical events. Between these two, modern speculation is rent by a great gulf. The former enjoys a traditional right of primogeniture, ever since the Greeks dismissed becoming as incapable of being the object of scientific knowledge and degraded history to a merely empirical level. For Kant, the universality and necessity which are the hall-mark of scientific thought were conceived on the Greek model, and were therefore inapplicable to the unique, non-recurring narratives of history. But the great advance of historical studies in the nineteenth century, due to the Romantic movement and the development of methodical scholarship, brought to light the scientific value of history and offered philosophers the opportunity of conceiving a universality of a different kind from that of scientific law: an *intensive* universality, so to speak, concentrated within the individual itself, and a necessity consisting of a system of connexions that constitutes the armature of history. Availing themselves of this new opening, the schools of Dilthey and Windelband in Germany and of Croce in Italy ended by reversing the traditional relation between natural science and history, and ascribing to the latter the primacy hitherto claimed by the former.

The question which now confronts philosophers is this: Are we in reality faced by an irreconcilable opposition? Does the conception of reality *sub specie historiæ* imply the total exclusion and negation of the alternative conception, and *vice versa?* Or is the reciprocal negation a partial and dialectical one? Do the two points of view, opposed though they are, imply and supplement each other?

As a matter of fact, it may be observed that, in spite of the separation between the two types of mind already noticed, cross-references from one kind of thought to the other are common, and are becoming commoner. Half a century ago scientific thought tended to entrench itself in a rigidly mechanical view of things and to repudiate all becoming, all development; to-day, to use Bergson's words, it "takes time seriously," and even asserts an "advance in nature," and assumes that the ultimate elements of which the world is made are arranged, not in an immovable space, like the atoms of older science, but in a mobile space-time, like Whitehead's point-events.

Still more recently, in an article on "Art and Science," published in the JOURNAL OF PHILOSOPHICAL STUDIES (July 1930, pp. 331–352), Professor Alexander emphasized the importance of the historical elements which enter into the construction of any scientific theory. Taking his stand on the Comtian classification of the sciences, he pointed out that, as we pass from the most general and abstract sciences, like mathematics and mechanics, to the more individualized and complex sciences, like biology and sociology, the proportion of historical elements increases. "The biological sciences . . . are more like history and less like mathematics, and there is consequently less artifice in them than in physics." And by "artifice" Alexander means to describe the special peculiarity of the scientific mind, the construction of schemata and laws superimposed on the course of historical events.

But this symbiosis of history and science must not lead us to confuse the two. They are quite distinct, and we must hold to the distinction if we wish to understand the significance of their interaction. Thus in the same article Alexander writes: "As the biological sciences grow and become more scientific, that is approach to the ideal of the physical sciences, not only does generalization enter, but measurement; and again, introducing experiment, they become physiological and admit of the statement of laws." Science and history, that is, though combined in a single complex whole, remain distinct. "Darwinism," continues Alexander, "illustrates excellently both these aspects. . . . It is an immense historical comprehension, and indeed it strikes the note of the historical method in science"; but, on the other hand, "besides being a great historical synthesis,

[it] offers in the notion of natural selection a physical law regulating the historical procession."

These relations and distinctions seem to me to deserve more methodical investigation and illustration. As long as we confine ourselves to analysing cases in which ready-made wholes of scientific thought contain elements of each kind, it is difficult to get beyond partial and fragmentary results. Starting from the Comtian hierarchy of the sciences, itself a classical example of naturalistic thinking and the constructions which it creates, we can do no more than evaluate, in each grade of the hierarchy, the quantity of scientific and historical matter forming its ingredients; we can never put our finger on the thing which, from the point of view of philosophical inquiry, is much more important—the actual way in which thought moves, in history and science respectively. All that the classification of the sciences can tell us is that, in proportion as the scientific or constructive element increases, the historical or individual element dwindles, as Alexander's example of the biological sciences suggests; but this is itself a fact that needs to be explained by studying from within the actual procedure of thought which fixes the inverse proportion of these elements. The investigation here proposed, in short, deals not with the finished products of intellectual work, but with the mental categories that preside respectively over scientific and historical research.

The great example of this kind of inquiry is the *Critique of Pure Reason*; but, dominated as it is by the classical prejudice against the scientific value of history, Kant's analysis confines itself to the categories which preside over natural science. But the studies of Dilthey and Croce have given us illuminating contributions towards a Critique of Historical Reason, and have broadened our mental horizon by rescuing history from its degradation to a merely empirical level, the level of a bare collection of facts, to which it had been reduced by the "philologism" of succeeding generations after the golden age of "historicism" in the Romantic movement. The above-mentioned writers have relieved us of the task of showing that history is not inferior to natural science in scientific value, even if its scientific value is of a special kind; that its distinguishing characteristic is not fact as something merely *recorded*, but fact as something *thought*, something brought within the universal relations of thought; that the realm of history is not restricted to some particular province of the knowable, marked off by external and objective signs from the province of natural science, but is coextensive with the knowable in its entirety; and that there is, therefore, a way of looking at the universe *sub specie historiæ*, that is, from the point of view of becoming and development, just as there is a way of looking at the same universe from the point of view of the constructions of natural science.

But what are the respective characteristics that distinguish these two points of view? How do the categories of scientific thought and those of historical thought differ? Between the *Critique of Pure Reason*, as a theory of natural science, and the Critique of Historical Reason there is, as yet, *no adequate reciprocal understanding*, precisely because these two points of view have been examined separately, each being taken in turn as excluding the other. What is needed is for philosophical inquiry to place them both on the same plane, and to undertake a comparative study of the mental categories presiding over their respective operations. Only so can we hope to arrive at a conclusion valid for both alike. This is the type of study which, in however summary an outline, we here propose to undertake.

Starting from the conclusions of the Kantian Critique, in order to avoid preliminary explanations, we may consider the two elementary forms of space and time as the two fundamental "frames" of cosmic being and cosmic becoming respectively, and as the two directions of consciousness along which natural science and historical science are to develop by means of the contributions supplied by mental categories of a higher order. Being in space, in an immovable geometrical "frame," quantitative, measurable, is the first condition of any naturalistic construction; becoming in time, with an irreversible order of succession, is the starting-point of all historical comprehension. *Doubtless the whole of science is not contained in* spatial schemata, nor the whole of history in temporal; these schemata are the poorest and emptiest determinations of their respective realms, yet they serve to indicate the decisive orientations of mental activity in the two, like arrows marking the direction of a movement.

The data of science, then, that is, the elements upon which subsequent elaboration is superimposed by scientific thought, are intuitions in space, which already carry within themselves, as in embryo, the characters of homogeneity and differentiation which are the basis of all scientific constructions. The data of history are events experienced *in time, carrying with them a tendency towards internal organization*, simply because the moments of time are inside each other and not outside each other like the parts of space.

This primary distinction may seem to be contradicted by the recent philosophical ideas that have grown up round the conception of relativity, which deny the rigid distinction between space and time and assert the necessity for a union of the two, a four-dimensional space-time continuum, constructed as a more comprehensive "frame" at once of cosmic being and of cosmic becoming. But we must remark, by way of preface, that this comprehensive point of view belongs neither to science nor to history as such, but to philo-

sophy, as the attempt to reach a higher synthetic vision of reality as a whole; this may be seen, for example, in the systems of Alexander and Whitehead. If now we leave this philosophical region of thought and descend to that of natural science, even in the form given to it by the work of Einstein, we find that the predominant sense of the term direction is the spatial sense, because in naturalistic constructions the time-element is regarded as a function of space; here there is no question of an experienced and internalized time, but of trajectories externalized in space, spatial relics (so to speak) of time. Bergson's conclusions on this matter seem to me absolutely convincing: the work of science tends to neutralize time, and to resolve successions into simultaneities, movements into stationary trajectories, *l'évolution* into *l'évolué* (becoming into that which has become). The scientific theory of relativity, as has been clearly shown not only by Bergson but by Meyerson, Cassirer, and others, is no exception to this rule. Whitehead's "events," however valuable in a philosophical construction, can never replace the material atom for the purposes of physics, because of the insuperable tendency of science to think in terms of *space* and *things*. Even the ingenious attempts on the part of the relativists to reduce simultaneities to successions serve only, within the field of science, to dislodge the special problem of science from one place and to make it reappear elsewhere, as the problem of reducing these new successions into a more comprehensive simultaneity. What can be the meaning of the determined attempt, made by the theory of relativity, to neutralize the points of view of different observers, unless it means that temporal differences existing only from subjective and one-sided points of view must be neutralized in a single and simultaneous vision of the physical world?

Natural science does certainly present us with a union of space and time, but only in the sense that it offers us an interpretation of time in terms of space, working along a line which is orientated in the direction of space. A similar and opposite process may be observed, working along the temporal line which symbolizes the movement of historical thought. In other words, when we place ourselves at the point of view of temporal becoming, we find ourselves interpreting space in terms of time. Consciousness perceives or constructs the parts of space successively, experiences them according to the temporal laws of consciousness itself. Now, in any activity, the advance of spatialization depends on the progressive irradiation of the activity itself. This process becomes especially clear and conspicuous in the higher manifestations of that form of thought which works along time as its fundamental direction, historical thought. Here the spatial world, which in this context is commonly called geographical, appears and unfolds itself to our view as a function

of the activity of historical agents No doubt history in its turn depends on constant geographical factors, but only in the same way in which any spiritual activity depends on natural conditions, while at the same time it affirms its superiority to these conditions, its "emergence" at a higher level. In the last resort this proves a reciprocal relation between space and time, in spite of the bifurcation between these two directions of thought to which we have called attention; for this bifurcation, far from making it impossible for each to depend upon the other for its own completion, actually makes this necessary. Without the process of temporal becoming, the process of spatialization would stop, for want of experimental data to arrange. Without spatialization, time would be a mere dispersion, an ephemeral lapse, not a vital acquiring and possessing. Here we can see the significance of the modern philosophical theories of space-time, which replace the rigid mutual separation of space and time by a complementary and to some extent reciprocal relation between two processes. Thus, even at this elementary and almost sensuous phase in the development of the theoretic spirit, we find a forecast or premonition of the relations which the higher mental categories will establish between science and history.

In this further study of the categories of historical and scientific thought, Kant's Analytic of Pure Reason can give us substantial help. But Kant drew up his list of categories with too exclusive a regard to the procedure of natural science, it must be revised and broadened if it is to do justice to the wider horizon of a theoretic spirit including historical as well as scientific knowledge.

Let us consider the categories in their most elementary significance as the fundamental predicates of our judgments, or, to borrow an expression from Herbert of Cherbury, the principal questions which the mind asks of the objects which it perceives by the senses. When anything presents itself to us in space or is experienced by us in time, we ask ourselves (1) *whether* it exists, (2) *what* it is, (3) *why* it exists, (4) what it is *worth*. The *that*, the *what*, the *why*, the *value* (or, modality, substance, causality, value) are the principal articulations through which the unifying and synthesizing activity of our thought works.

Now, within each of these four divisions we find a reflexion and confirmation of that dual nature of mental activity which we first found revealed in the distinction between space and time. Both science and history use causal categories, modal categories, and so forth, but they use them in different ways, so that the same categorial functions are specified (or rather, as we shall see, polarized) according to the direction taken by consciousness in each case.

(1) In the order of modality, scientific judgments are expressed in the hypothetical form, that is, according to the category of possi-

bility: if a certain condition occurs, a certain consequence will follow. In historical judgments, on the contrary, the modal predicate is that of simple being, factual reality: history states what, as a matter of fact, happened. The necessity of scientific judgments depends on this hypothetical character; it is not a necessity in the antecedent, but a conditional necessity in the consequent. The necessity of historical judgments is simply another name for the contingency of historical events: this particular event did actually happen, therefore it was bound to happen; any rational explanation of the event ultimately comes up against an insuperable element of contingency, which colours the whole of historical thinking and writing. Hence, while science, thanks to the necessity of its hypothetical laws, is able to arrive at rigorous statements, perfectly rational, which, however, travel round the edge of empirical reality without ever penetrating it,[1] history pierces into this reality and lives it over again, but is imprisoned within it, and can never escape into the realm of what might be (history, as we say, has nothing to do with *ifs*) and what ought to be.

(2) As regards the *what*, we find a similar polarization of scientific thought and historical. Developing along the ideal direction of space, science tends to think in terms of things, to conceive an identical and permanent substratum to which all empirical phenomena are referred. This substratum is either space itself, promoted from the status of a mathematical entity to that of a physical, as in the Cartesian type of science which to-day is enjoying a revival, or else it is something else occupying space, whose determinations tend to coincide with those of space, viz. matter. In history, on the contrary, conformably with the direction of time, which symbolizes becoming and movement, the *what* of things is expressed by the category of activity, as the driving force of becoming, the self-development of reality. An history conceived in terms of the category of substance would tend to eliminate all becoming and assert that there is nothing new under the sun, that everything is uniformity and repetition. To some extent this has actually been the ideal of naturalistic history, which has endeavoured to reduce the variety of human activities to mere effects of constant factors, for instance economic forces. The endeavour has always failed, and has only succeeded in eliminating everything which from the historical point of view is of any interest or importance. On the other hand, a science of nature which, instead of thinking in terms of things, tended to think in terms of activities, would be failing to discharge its proper function and struggling in vain to grapple with something inexpressible, incoherent, incapable of being measured. This is the

[1] Cf. Eddington's admirable description of the "circular" track of scientific reasoning in *The Nature of the Physical World*.

danger that besets all those tendencies in science which try to introduce concepts of activity, such as *force, life, etc., instead of* confining themselves to recording the measurable and calculable effects of these activities, which, *qua* pure activity, fall outside the realm of science.

It is characteristic of substance, as grounded in spatial externality, to be "what it is," without increase or diminution; hence the typically scientific laws which refer to this substance as a whole, or to parts of it, always express relations of permanence, conservation, temporal invariability. Activity, on the contrary, develops, grows upon itself, concentrates into the acts of its becoming that which it has already become, and transcends its hitherto realized being in virtue of an energy which tends constantly to create new realizations. Its law is the law of development, of progress. Moreover, just as in space the parts are given in the whole, not individualized by themselves, but individualized only in the whole which circumscribes and defines them, so the parts of a substantial whole have no proper determinations of their own; each acquires consistency and self-sufficiency only through its relation to all the rest. Hence arises the tendency of scientific thought to generalize and to identify through abstracting, a tendency which finds complete satisfaction only when the assimilation of the parts of matter to each other is complete and nothing is left unassimilated. Activity, on the other hand, is always individualized in its manifestations, if its parts imply each other, they do so only as one individual implies another, in the sense that every act posits the conditions of new acts, every individuation demands fresh individuations, because of an inward energy unsatisfied with what has been done and always pressing forward to a new action. Consequently, historical events are organic systems, internally differentiated and articulated, whereas systems of scientific entities are homogeneous mechanical systems, devoid of inner differentiation.

(3) In the order of causality, the form appropriate to scientific thought is deterministic connexion, which resolves the temporal relation of cause and effect into a simultaneous nexus of effects, that is, into a universal law of permanence and cosmic conservation. There is here an exact correspondence with what we noticed above in the case of the relation between time and space in scientific thought. Reduced to a mere dimension of space, time, as time, is annihilated; instead of expressing a constant process of change and renovation, it only serves to confirm and reiterate relations of identity and invariability. Similarly, the category of cause serves in science as the mere complement of the category of substance, or rather, it is a means of reducing the variety of events to the identity of substance: it only signifies that the quantitative relations of the material world do not change with the movements of things. History

knows a very different kind of causation. So far as it attributes validity to temporal succession as such, history demands an individualized causality, one which produces effects different from the cause, instead of assimilating them to it, and whose effects return into the cause in such a way that the product of an activity reunites itself with the activity that produced it. The type of historical causality is the intentional causality of which we have experience in all our conscious acts. The example in Plato's *Phædo* is familiar. Why is Socrates sitting in prison? Because (says the scientist, following Anaxagoras) he has bones, muscles, and sinews articulated in a certain way; but the philosopher replies: Because a sentence has been passed upon him which, though unjust, he does not wish to evade by flight, since that would contravene the laws. The two answers symbolize the two types of causal explanation. The difference is not the same as that between efficient and so-called final causes, as this is usually stated. Scientific causality is not efficient; it tends to reduce the synthetic relation of efficiency to an analytic relation of identity; it does not ask how the effect can be produced by or explained through the cause, but how the effect can be traced back to the cause, and this to antecedent effects, in an unbroken chain, each link of which is exactly equivalent to the next. Historical causality, on the contrary, is the true efficient causality, in so far as it is also final. The idea of an intentional causality, an idea which we derive from our psychological experience, combines in itself the two moments of efficiency and intentionality, because it implies the idea of an end as moving us to action. Does it follow that teleology ought to be introduced into historical explanations? Certainly; but only so far as teleology signifies intentionality, as the moving principle of consciousness. If teleology means a principle that transcends the process of historical becoming, we can have nothing to do with it; final causes operate just so far as we present them to our minds and set them before us as ends of our action. But the validity of ends as intentional motives does not imply that they are limited to the sphere of the single individual organism. There are societies which act as individuals, and in which the collective end pervades the activity of the single members; and there are conflicts between societies, and therefore between their ends, which constantly introduce modifications into the effects of historical causes.

In fine, the difference between the two modes of causal explanation lies in this: by deterministic causality we set up external and quantitative connexions between the parts of extended material substance; in history we set up internal connexions between the moments of becoming, so far as some of these actually explain others and include others in themselves, as the present is explained by the past and includes the past in itself. In the one case we have a con-

tinual action and reaction, in the other a continual agitation, or transference of a quantum of movement from one part of substance to another; in the one case a qualitative diversity of cause and effect, in the other a complete quantitative equivalence. Hence there are in science no genuine causes and no genuine effects, but only an unbroken chain of effects, whereas in history we find real causes, that is, spontaneous and intentional combinations of actions which do not refer outside themselves for the principle on which they depend, because history consists of individuals possessing initiative, whereas the entities of science, deprived as they are of individuality, possess nothing except the ability to transmit, impersonally, what comes to them from without.

Here too we must guard against illicit transferences from one mode of causal explanation to the other. Deterministic connexion, when transferred to the realm of history, makes it impossible to grasp the peculiar characteristics of historical events. Thus historical materialism, by attributing a uniform causal agency to economic facts, destroys all diversity among the effects of this agency, because it forgets that the so-called economic conditions do not act mechanically from outside, but produce their effects through a process of internal motivation which diversifies them according to the diversity of the agents' situations and the peculiar way in which their consciousness conceives them and reacts to them. And, on the other hand, intentional causality, applied to natural science, encumbers it with illegitimate animistic relations, ill adapted to the realm of depersonalized and quantitative entities in which science has its being.

(4) To complete our rapid outline of historical and scientific categories, the same antithesis reappears in the category of value. To assess the value or importance of a thing, we judge it by reference to a universal principle posited by ourselves as a criterion or standard of valuation. Now, it is characteristic of the entities of science and our ideas of them that, taken singly, they have no intrinsic value whatever, and they acquire it only so far as they are included in the entire system of entities or ideas of which they are parts. What has value is thus the system, and this absorbs and neutralizes within itself the single elements that go to make it up. Thus, if we take the supreme theoretic value, truth, no scientific proposition taken by itself can be regarded as true; truth is just the coherence of a whole system of scientific propositions, a system leaving no single proposition outside itself, isolated and disconnected. In history, on the contrary, general and common elements have by themselves no value at all; a history consisting of a mass of generalizations is empty and pointless. What counts is the individual; not of course the atomic individual, but the individualized action

which differentiates itself from all other actions. And general ideas count just so far as they are fused with this individual and help to differentiate it. Individuals do not all stand on the same plane as historical agents; the more the individual can absorb into himself of the world in which he lives, the more his action asserts itself as an individual expression of collective desires and demands and aspirations, and the greater is its historical importance. In consequence, what is historically true is not general ideas but their individual embodiments.

In short: between science and history there is an inverse relation. The one is *abstracting* thought, which tends towards uniformity and identity, and cancels all the differences which it meets in its path. The other is *individuating* thought, tending towards multiformity and diversity, and enriching itself as it advances by collecting to itself all the individual determinations of activity that emerge in the course of time. On the one side we have a static projection of the world in space, on the other a dynamic progression in time.

Now, this opposition is not ultimate and irreducible. It is not of such a kind as to necessitate the complete destruction of one form of knowledge in the interests of the other. It is a constructive and fertile opposition. This appears from the fact that, as we already saw in the case of space and time, so also in the case of the respective categories, each side needs to be supplemented and integrated by the other, although it is opposed to the other. The category of possibility, which informs scientific thought, would be utterly impotent unless it could rest upon a factual reality. Every scientific abstraction, and therefore every hypothetical law, must have as its starting-point the observation of a certain "historical" group of phenomena. And, on the other hand, every reality must be rendered definite and concrete by its relation to unrealized possibilities. In studying the genesis of historical actions, therefore, we can be greatly helped by knowing the main alternatives which the unchanging nature of the agent sets before his activity. Similarly, every activity, in realizing itself, incarnates itself and, so to speak, substantializes itself in bodily form, and every substance reveals its nature by its activity. Again, all determinism presupposes an individual causality, and the effects of every individual cause, once produced, arrange themselves into a deterministic system. And lastly, all value implies a reciprocal relation between the individual and the universal. If the world of history is the world of variety, of novelty, of ceaseless creation, and the world of science that of uniformity, permanence, and conservation, it is clear that the one cannot exist utterly separated from the other, and must feel the other as necessary to itself, even if opposed to itself. Scientific thought could never advance, but would freeze to death in its own laws, if it

ceased to renew and nourish itself by perpetual contact with historical experience. When we look at its systems of hypostatized entities, science gives us the impression of something rigid and static; but when we look at its inner growth, when we think of it as it lives in the mind of the scientist, we see that it constantly breaks through the hard and fast formulas in which it imprisons the world, and must be conceived as a continuous process of historical development. This is why we call science not *abstract* thought but *abstracting* thought, it not only creates abstractions, it also overcomes them; it is not a static system of formulas, but a dynamic systematizing process, perpetually deriving new material for assimilation and systematization from the inexhaustible variety of the historical world.

Historical thought, on the other hand, if in its movement it never encountered any halt or pause due to what we may perhaps describe as the coagulation of historical activity into substance, would merely waste away in an utter dispersion, an all-devouring Heraclitean flux. Novelty and variety are inconceivable without identity and permanence. Entities such as institutions, nations, states, cities, constitutions, economic laws, and so forth, are nothing but the results of a tendency on the part of activity to substantialize itself into things; and these things are what enable us to recognize the identity of the agents in the novelty of their actions, as well as the identity of the tendencies and goals of these actions, and give to historical thought its solid constructive framework.

The task of showing that these two opposed forms of thought spring, in spite of their opposition, from a common root and must end in a final reunion is a task for philosophy. Philosophy as such cannot identify itself either with science or with history, it must rise above the conflict into a region where it can judge between the claims of the combatants. Scientific knowledge and historical knowledge form ideal divisions of the cognitive spirit, neither of which can claim by itself to exhaust reality, but each is bound to acknowledge the other as its own limit. Science only attains formal rigour in its laws by abstracting from the individuating conditions of the historical process, its limit, therefore, is laid down by the individual, that which can never be repeated. Laws of identity and statistical laws, the two great *modes* of scientific construction, make abstraction precisely of whatever singularities there may be in the behaviour of phenomena; if we want to know which of the various possible paths is that actually chosen by reality in its becoming, there is nothing for it but an appeal to historical observation. History, on its side, is bound hand and foot to an irreversible temporal and causal series which prevents it from dominating its object in such a way as to embrace it in a law rising superior to time, and to a factual contingency which, however permeated it may be with

rationalistic explanations, always to some extent resists the effort after complete assimilation. In any case, the rationality of history is an *ex post facto* rationality. *Ante factum*, history offers no foothold to reason; historical events cannot be scientifically foretold or anticipated. This is why history is of so little value for practical guidance. Action is directed towards the future, and the future lies wholly outside the field of historical knowledge. The formulas of science, on the contrary, eliminate time altogether, and with it the novelty of the historical process; and therefore they anticipate the future just sufficiently to enable us to use them with a certain degree of confidence as guides for action. This partially justifies the pragmatist theories of science which are so widespread in modern philosophy, though it would not justify a theory which deprived science of any theoretical value whatever.

To follow the rhythm of these two mental forms in their development, to grasp their necessity and constructive value for the life of the spirit, and to arrive through this process at a view of the world at once single and articulated—these are perhaps the most important tasks that confront the theory of knowledge at the present time. But if this is to be done, it seems to me that philosophers must first of all make up their minds to abandon their present *fin de non recevoir* with regard to dialectic. Throughout the history of the philosophical tradition from Plato to Hegel, dialectic has played a dominant part in the speculative explanation of the universe. Hegel's misuse of it, and then the growth of scientific habits of thought, have alienated the minds of philosophers from this method, which nevertheless is the royal road of philosophy. To-day the dialectical method seems to have become the unenvied monopoly of a little group of surviving Hegelians. But if philosophy is what it is generally thought to be, the theory of value and of valuation, I do not see how it can do without dialectic unless it is to surrender it prime *raison d'être*. It is in the nature of all values to polarize themselves into two opposite terms, conflicting with one another, and yet each at once demanding and supplementing the other. No beauty, no truth, no goodness is intelligible apart from this connexion with its own opposite; and the synthetic point of view, which combines the opposites into an articulated and living unity, is precisely the point of view characteristic of philosophy. If present-day speculation has abandoned dialectic, this is because philosophy has come by degrees to copy the methods of natural science, which, with its tendency to think in terms of things, congeals the results of intellectual labour into hard and fast schemata, from which every trace of the dialectical activity that created them is banished. The dialectical character of thought thus appears only in its processes, and not in its results. Concentrated as they are upon their objects,

the particular sciences tend to embody thought in things; and obviously things, as static and circumscribed determinations of reality, admit of no further dialectical treatment. Philosophy, on the contrary, as the critical valuation of scientific concepts, leads the work of thought back to the focus of the activity from which it proceeds, and therefore the dialectical character of mental activity is bound to reappear in philosophy. Hence the dialectical problem of truth, as the antithesis of error and the overcoming of error, never appears in the particular sciences. There are only truths embedded, so to speak, in things, whence thought seems to extract them. It is only philosophy, with its centripetal movement, that disentangles these truths from the things and restores to them the fluidity that belongs to their true mental nature

The relation between science and history, which we have here attempted to illustrate, is just such a dialectical relation, of the kind which philosophy alone has the power of grasping. If we place ourselves at the point of view of science, we are obliged to return a sheer negative to the claims of the historical point of view, and *vice versa*; only from the point of view of philosophy, from which the inner genesis of mental activity becomes visible, can we see the two points of view as opposed to each other, and, at the same time, as standing in need of each other and making good each other's defects.[1]

[1] In speaking of the "point of view" of philosophy, I do not of course mean to refer exclusively to the professional philosopher as a different person from the historian and the scientist. I refer to the philosophical function of the mind, a function present both in the historian and in the scientist That such a function is necessarily present in the minds of these persons is a corollary of the dialectical conception of philosophy stated in the text

THE ERRORS OF SIR ARTHUR EDDINGTON

NORMAN CAMPBELL, Sc.D

ALL candid philosophers, in setting out on their great task of co-ordinating and criticizing the whole range of human thought, must often feel embarrassed by the limitations of their own knowledge. Their difficulties in dealing with scientific thought have increased very greatly during the last thirty years. For, while science has been rapidly growing more complex and abstruse, philosophers have been tending to require a more intimate knowledge of it. They are no longer interested only in scientific methods (which, it is often assumed, can be studied apart from their applications); they are beginning to find significance in particular propositions and principles. Some of these cannot be comprehended in their entirety by anyone who has not submitted himself to a training so specialized and so severe as to be almost incompatible with the width of outlook that makes the philosopher. Accordingly, philosophers have abandoned all attempts to acquire their knowledge of certain branches of science (particularly physics) from the original memoirs and expository treatises addressed to scientists; they have recourse to interpreters.

Now it might be argued that interpreted science is not science at all. For interpretation to the laity of such a subject as mathematical physics involves the omission of essential elements, for example, the mathematical analysis and concepts summarizing extensive and intricate collections of facts. Without these elements the subject could never have advanced; from them the science derives its meaning for all serious students. The proper reply to such an objection is, presumably, that these elements, though essential to those who seek to advance science, are relatively unimportant to those who seek merely to understand it. But if this is so—and of course there is much to be said on the other side—there must be other elements essential even to the philosopher; interpretation will involve distortion unless they are preserved. The identification of these elements is surely a problem for philosophy; the interpreter, in deciding what he must retain, commits himself to some form of philosophy; the philosopher whom he addresses may receive his knowledge of science from sources tainted by doctrines that his analysis of science may lead him to reject.

The dangers arising from this source might be avoided if the interpreters from whom philosophers receive their knowledge

formed a large and representative body of scientists. For if the interpreters differed in their outlook, a comparison of them might enable the common (and therefore purely scientific) elements to be disentangled; if they agreed, any philosophical doctrines implied by their interpretation might be taken as truly and necessarily part of science Actually the facts are very different. Few scientists attempt interpretation and fewer still succeed. Even among the very small group of fully equipped scientists who gain the attention of philosophers at all, some exercise much more influence than others. For many philosophers, and for most journalists and novelists, modern physics is simply what Sir Arthur Eddington says.

His exceptional position has probably one of three reasons. The first, a very good one, is his exceptional power of expression; he may not have more to say than others, but his humour and literary charm enable him to say it better. The second is the authority that he derives from being himself a very great scientist, so great that it is almost impertinent for lesser men to call him so. This is not a good reason For the laity do not read the works that prove his greatness; these need interpretation as much as the works of any other scientist. In the works that they do read he has no opportunity of showing that, as a scientist, he is anything more than well informed, incapable indeed of the minor errors that so often betray the amateur, but not more incapable than hundreds of well-trained men wholly devoid of distinction. On the other hand, it is not definitely a bad reason. The third reason is that he is much more than a scientist; unlike many great scientists, who become puerile as soon as they leave their own province, he is worth hearing on any subject on which he cares to speak. But this is a bad reason. For if his interests and his intelligence extend beyond the bounds of science, the danger that something alien to science will creep into that part of his work which professes to be purely interpretative becomes very serious indeed. My object here is to maintain that he has indeed fallen into this error—or, perhaps more accurately, that those who regard his work as purely interpretative have fallen into it. His error is one of omission rather than commission. He has distorted science, not by introducing foreign elements, but by leaving wholly out of account those essential elements from which science derives its practical value.

Of course a protest will at once be raised that practical value is not in the least essential to science, that only pragmatists believe that propositions are true because they are useful, and that the scientific propositions that interest the laity most, such as the doctrines of Evolution and Relativity, have so far been devoid of any practical value whatever. But though much of science has no actual

practical value, it all has potential practical value; and, though this practical value, actual or potential, does not make science true, it makes it science. For some philosophers, no doubt, science is merely one of the various activities of the human mind, co-ordinate with art or religion; they would take as much interest in it (or as little) if it had no validity outside the laboratory, and if the experience with which it is concerned were as remote from the daily life of the plain man as the ecstasies of the sensitive artist and the religious mystic. To such I have nothing to say. But for most modern thinkers, science possesses a certain "authority," denied to art or religion or even mathematics, because it can handle those hard facts of everyday existence, which men may value differently, but none can wholly ignore. The power of prediction, and therefore of control, from which science derives its practical value, is the source also of its philosophic importance. A science that lacked such power, and could not distinguish facts from dreams, would have affected neither our material nor our spiritual life; the practical value of science and its intellectual interest are inseparable.

But, though they are inseparable, they attach to different parts of science. Practical value attaches to laws, intellectual interest to theories. Laws, in general, are interesting only because they establish theories; theories are useful only because they lead to the discovery of laws. Fundamentally laws and theories, though interdependent, are distinct, and confusion between them would destroy the basis of all scientific investigation. Superficially they are often so similar in their form and in their content that careful thought and extensive knowledge is needed to decide where the boundary lies. My chief charge against Eddington is that he encourages a confusion between laws and theories. In order to ascertain how the confusion may arise and to what errors it may give birth, we must start with a brief inquiry into the difference between them. Since the only science with which we are concerned here is physics, we may suppose for brevity that our laws are experimental and our theories mathematical.

A law states that certain experiments can be performed; that is all it states. If I assert that the pressure of a gas increases with its temperature, and if you doubt the statement or do not know what it means, I must demonstrate experiments to you. The experiment with which I shall start will be one involving a pressure-gauge and a thermometer; and if you were an expert, who by some mischance had failed to acquaint yourself with that particular law, that would suffice. But if you are completely ignorant of physical apparatus, you will rightly ask why I call the readings of one instrument pressure and those of the other temperature. To explain this I shall have to state other laws and perform other experiments to demon-

strate them. For instance, nearly all thermometers are based on the law that bodies of different temperatures tend to the same temperature when brought into contact; this is the law that gives the term temperature its meaning

Here appears one of Eddington's minor but characteristic errors. He tells us again and again that the data of physics are "pointer readings," suggesting that they are confined to a very narrow and special region of experience. The suggestion is superficially plausible only because modern physicists are accustomed to leave so much of their work to instrument makers and standardizing laboratories; their practice is admirable as an economical division of labour, but it is most misleading in philosophical analysis. Pointer readings are interesting only because they are the identification marks of certain experiments of which they constitute one small and not very important element: these experiments are an essential, but concealed, constituent of any experiment involving pointer readings. The experiment that a law really means is almost always vastly more complex than the experiment that an expert would accept as a demonstration of it. If we want to arrive at the ultimate data of physics, we must analyse all the concepts, such as pressure and temperature, in terms of which laws are conventionally stated, and ask what are the experiments that they imply. We must continue our analysis (if we can) till we find laws involving no complex concepts, and meaning nothing but the experiments by which they are demonstrated. We shall then discover that the true data of physics are infinitely more complex than the highly specialized observations made in a modern laboratory, they include the whole of the incoherent mass of sensory experience that constitutes the daily life of the ordinary man.

This complexity of laws is the clue to their discovery. If, in order to discover a law, we had always to search the tangle of unanalysed experience in the hope of finding an experiment that could be demonstrated at will, progress would be very slow and fitful. Actually laws are discovered by combining previously known experiments to form new and more complex experiments. Thus, when we have found the laws that gases have pressures and temperatures, it is a simple matter to inquire whether there is a law relating the pressure of a gas to its temperature. In a highly developed science the number of experiments and the modes of their possible combination already known is so large that the formation of new combinations and the discovery of new laws is almost a matter of routine, requiring nothing but energy and an adequate training in recognized technique. Almost—but not quite! Even at this stage there is room for natural aptitude, and some are more successful in discovering laws than others. In the earlier stages natural aptitude is essential, and in

those who initiate a branch of science, starting from unanalysed experiences, it amounts to genius.

One necessary ingredient of this aptitude is love of the work. Unlike the mathematician to whom (as a mathematical friend once told me) every material object other than a sheet of white paper is intellectually abhorrent, the experimenter is at home in the material world. He enjoys handling apparatus, making it, devising it, and getting it to work. This affection for the concrete is naturally accompanied by a distaste for the abstract. The experimenter finds little pleasure in pure thought; the propounding of paradoxes and the asking of unanswerable questions drives him to impotent fury. In particular, he shrinks from the question, so enticing to philosophers, why he believes that experiments demonstrable to-day will be demonstrable to-morrow. A belief that there are demonstrable experiments is inherent in the innermost substance of his thought; he cannot divest himself of it, even so far as to consider why he holds it. The most "reasonable" pronouncement he would be likely to make, if pressed, is that if experiments did not repeat themselves, there would be no joy in experimenting. A recent writer in this *Journal* announced that in the discovery of laws the scientist must assume something or other very profound. He would have been right if he had said "must not assume"; anybody who could assume any abstract proposition of the kind he stated could not be an experimental scientist and could not discover laws; but he could be a Bacon, a Whewell, or a Mill, discoursing about science without practising it.

This aversion from the logical and the abstract makes scientists appear very naïve and stupid fellows to those whose tastes differ. The point that I want to make is that this *naïveté* and stupidity is an essential part of their science, that these naïve and stupid people are the true scientists, who make science what it is and give it practical value.[1]

One word more before we leave laws. I have said nothing about numerical laws, which are the basis of all mathematical science; such laws, for example, as that the pressure of a gas is *proportional* to its temperature. It may be questioned whether this conception of proportionality is, as I have suggested, capable of being interpreted solely in terms of demonstrable experiments. Personally I think it can, while admitting a doubt. But there is no doubt that, even if such laws contain an element that is not experimental, they

[1] Of course I, in my humble way an experimenter, do not plead guilty to stupidity. It seems to me that the philosophers are wrong who imagine that reason and logic can lead to the discovery of truth; they are merely ways of justifying and explaining truth to those who have themselves no power of discovery.

also contain elements that are. Eddington seems sometimes to suggest that physical laws are merely laws between numbers, numbers being purely mathematical and abstract conceptions. That is entirely false. It may be true that it is only the relation between numbers that interests the mathematician, and that, for example, the equation $xy = c$ means exactly the same thing to him whether it represents a law concerning hyperbolas or one concerning perfect gases. But that is merely because he deliberately ignores a difference, not because the difference is not there. The sign = states, besides a numerical relation, the same in both laws, a physical relation, very different in the two, and describable only in terms of experiment.

Now let us turn to theories. Theories explain laws. The essence of explanation is the substitution of more for less satisfying concepts. It may take many forms, which it is not our business here to analyse and classify; but two forms require attention. One is explanation by generalization; ideas are the more satisfactory, the more general they are and the wider the field of experience that they cover; a thing is explained when it is shown to be a particular example of something more general. Explanation of this kind plays some part in science, and especially in its applications to facts of common experience. I offer a scientific explanation of the connection between low barometric pressure and rain, when I suggest that it arises from the more general connection between the cooling of a gas by reduction of pressure and the condensation of vapour contained in it. But this is not the explanation of a law by a theory, but the inclusion of a narrower within a wider law. Theoretical explanation, with which we are now concerned, may and usually does consist partly in generalization; for the theory may explain several laws, and thus exhibit each as a special case of something more general; but the generalization is not an important part of the explanation, and some important theories in these earlier stages have involved no generalization at all. Theories of science, which regard generalization as the main object of science, mistake the accidental for the essential.

The second form is explanation by familiarization; a mysterious event is explained when it is shown to consist of familiar happenings in unusual relation. The explanation offered by theories is rather of this form; for the essence of it is the introduction of new ideas, not contained in the laws to be explained, that are satisfactory because they are intrinsically acceptable and make an immediate appeal to the sense of intellectual fitness.

The connection established by the theory between the new ideas and those to be explained can probably be described in many ways; the way that seems to me most illuminating analyses a theory into

two separate parts, the "hypothesis" and the "dictionary." The hypothesis consists of propositions about the new ideas, characteristic of the theory—the hypothetical ideas, as we shall call them; the dictionary relates these ideas (or combinations of them) to concepts involved in laws (such as temperature or pressure) in such a way that propositions about the hypothetical ideas can be translated into laws describing experiments.

Two examples should suffice to illustrate this analysis. In the dynamical theory of gases, the hypothesis consists of statements about the properties of molecules and the manner of their motions and reactions with themselves and the walls of the vessel; the dictionary relates the mean kinetic energy of a molecule to the temperature of the gas, the mean rate of change of momentum at the walls to the pressure, and so on. In Bohr's theory of spectra the hypothesis lays down the necessary conditions for a stable atomic orbit; the dictionary relates the transition between two stable orbits to the emission of a line in the spectrum.

The theory is tested experimentally by inquiring whether deductions from the hypothesis, translated by the dictionary, describe experiments that are actually demonstrable. This criterion is necessary, but it is not sufficient. If it were sufficient, anyone could invent a theory to explain any law or set of laws. A further criterion is that the theory must predict or seem capable of predicting laws other than those on which it was originally based. Those who profess to regard theories as valuable only because they suggest new experiments would probably regard this as the chief criterion. But it is difficult to believe that this doctrine is really accepted by scientists —or at least by any physicists; they appear to accept it because they are timid about expressing their true opinions. For it leaves no room for explanation, which we all know, though we may not admit it, to be the real function of a theory. A theory explains only if the hypothetical ideas are intrinsically satisfactory, and the first question that must be asked about any theory before it is worth while to apply any new experimental tests is whether it is so plausible that, if it survived those tests, it would explain something.

But what makes a theory plausible? Until recently it was often maintained that the only plausible theories were "mechanical" theories in which there was a close analogy between the hypothesis and the laws governing some mechanical system, and that no theory could explain unless it were thus based on a mechanical analogy. The dynamical theory of gases is typical of such theories; the propositions of the hypothesis concerning the molecules are closely analogous to laws describing experiments on a collection of elastic balls. To-day (we are often told) plausibility consists rather in a

generality and simplicity that satisfies the mathematician's sense of form. Doubtless there has been a change in the ideas that physicists will admit into these theories as intrinsically satisfactory. But the extent of the "revolution" that has overthrown the old "classical" physics based on Newtonian mechanics is often exaggerated. Much of the plausibility of the older theories lay, not in their use of specifically Newtonian doctrines, but in the wider attempt to explain all forms of change as changes of motion and position, such changes seem hardly to require or to be capable of explanation. But this feature persists in the newer theories which adopt dynamical principles other than the Newtonian Bohr's theory of spectra or Sommerfield's theory of the metallic state is in this sense as mechanical as the dynamical theory of gases. There persists an analogy between the hypothetical ideas and the concepts in terms of which laws are stated.

This analogy between hypothesis and laws is apt to obscure the distinction between them. When certain hypothetical ideas are called the position, velocity or mass of a molecule, it is not easy always to remember that statements about them are essentially different in character from statements about the position, velocity or mass of a material body. The confusion is further encouraged because the terms in which true laws are described are often derived from theories, just as the terms in which theories are described are usually derived from laws. For these and for other reasons that need not be given in detail, it is not always easy to decide whether a given statement is a law or a theory, and there are border-line cases not easy to classify. But that does not mean that the distinction is not valid or that there are not other cases in which it is perfectly clear. If it were neglected altogether, most theories would cease to fulfil their primary purpose, namely, to explain. Thus a molecular theory of elasticity would explain nothing if we really attributed to molecules elasticity of the same kind as that possessed by elastic bodies. The properties of a molecule, its position, velocity, elasticity, and so on, are entirely different things from the properties of material bodies called by the same names. For—this is the essential point—if they are displayed in experiment at all, the experiments are entirely different. Some hypothetical ideas, such as the position or velocity of an individual molecule, are not accessible to experiment at all; the dictionary contains no entries by means of which propositions concerning them can be converted into laws. Others, such as mass or mean velocity, are accessible to experiments, but only (it must be remembered) by means of the dictionary. The experiments by which we determine the mass of a molecule are entirely different from those by which we determine the mass of a billiard ball; moreover, even these experiments would not determine the mass unless the truth

of the theory is assumed, while the mass of a billiard ball can be determined without any theory whatever.

The main fallacy of the doctrines against which I am inveighing is a neglect of this distinction between a law and a theory. Of course Eddington himself understands it perfectly; he could not do valuable scientific work if he did not.[1] But in his popular writings he neglects it entirely. His neglect is so complete and so consistent that it must be deliberate; and indeed there is good reason for it. It enables him to make his exposition exciting by an appearance of paradox, and to avoid altogether any inquiry, necessarily somewhat tedious to the laity, into the evidence for the theories he expounds; his perfect freedom from any qualms in this matter is one of the main reasons why he is so readable, lucid, and inspiring.

The most striking example of his practice is his use, in expounding the theory of relativity, of his famous "illustration" of two men in aeroplanes smoking cigars. He tells us that "according to relativity" they would make the most surprising observations entirely incompatible with all our common-sense notions of time, and even with the difference between past, present, and future. The truth is that, if relativity tells us anything about these men smoking cigars in aeroplanes, it tells us (in conjunction with chemistry, physiology, and the older parts of physics) that they could not exist, that no two living beings could possibly move relatively to each other with a velocity nearly that of light, and yet be in a position to make any observations at all. If we want to know what relativity does predict in the realm of observations and experiment, we must inquire what are the observations and experiments that establish the theory; we shall then find that they are not in the least surprising; that they are perfectly consistent with common-sense notions of time an with a sharp distinction between past and future, and that they do not even involve two observers moving relatively to each other. In fact the main difficulty in obtaining conclusive experimental evidence in favour of Einstein's theory is that the laws that it predicts are qualitatively so exactly similar to those which have long been taken as natural and inevitable that it is difficult to be certain of the minute qualitative differences. The time, space, and motion of relativistic theory are very different things from the time, space, and motion of experiment, just as the velocity of a molecule is a very different thing from the velocity of a material body.

But, somebody will say, if certain purely practical obstacles were removed and if certain experiments, not possible now, were per-

[1] Indeed, if he cared to defend himself from my criticisms he could point to passages in his books which make just the points that I am making here. But they are so unobtrusive that his non-scientific readers miss them.

formed—— Stop there! When you propose that assumption, you immediately remove the discussion from the realm of science, just as when you say, If all men were contented with their lot, you remove it from the realm of politics. It may be great fun pursuing the consequences of your hypothesis, but it is not science. For science the distinction between what is and what is not possible, between experiments that can be demonstrated and experiments that cannot, is absolutely vital and essential, if it neglected that distinction for a moment, science would cease to be science; it would cease to have practical value.

Two other examples may be noticed. Eddington is always saying that the interior of the most solid body is "really" as empty as interstellar space, and contains only minute particles separated by distances incomparably larger than their dimensions. The conclusion that his readers are naturally inclined to draw is that facts are not facts and that things are not what they seem. Such a conclusion would be quite unjustified. The "distances" between intro-atomic electrons are quite different things from the distances between stars; they are detected by entirely different experiments; and the experiments that prove that the electrons are widely separated include, as an essential part, those that show that material bodies are impenetrable in the ordinary sense. The tenuity of an iron atom is not incompatible with the solidity of an iron bar, but rather dependent on it; if iron bars were not solid, we should have no evidence that iron atoms are tenuous.

Again, he makes great play with Heisenberg's Principle of Interdemination, which asserts (among other things) that it is impossible to determine *both* the position *and* the velocity of an electron; but he omits to point out that experimentally it is impossible to determine either. The position or the velocity of an electron does not mean the same thing as the position or the velocity of a rifle bullet. In fact it is such an entirely different thing, something so purely hypothetical and so distant from the realm of fact and laws, that Heisenberg himself, in an earlier state of his theory, was proclaiming that it ought to be removed entirely from the conceptions of physics. There is no difficulty in determining both the velocity and the position of any body accessible to experiment.

Lastly, Eddington suggests that Heisenberg's theory helps to solve the old puzzle about the freedom of the will by destroying much or all of the scientific evidence in favour of determinism. But surely such evidence as science ever produced in favour of determinism was based on the simple fact that there are laws, and that in certain departments of experience effects can be demonstrably predicted from ascertainable causes. Heisenberg's theory does not alter this fact in the smallest degree. It throws no doubt

on the validity of laws; indeed, the evidence for it, as for any theory, consists of laws; nor does it limit, but rather extend, the range of experience in which laws are discoverable. All that it does in this direction is to indicate once more that a complete explanation of laws must introduce ideas that are not suggested by analogies with laws.

But I shall be told that I am proving too much. These new conceptions of such great philosophic interest—a time that is a form of space in which past and future may be confused, or particles that have no positions but only probabilities of appearing in them—these have surely some scientific reality and therefore some philosophical significance. I do not deny it; what I maintain is that Eddington exaggerates and distorts their importance. Let me try to explain by analogy. All painters, even the least classical, would admit that the beauties of nature and of art are not wholly dissimilar, and that a painter may rightly be influenced by the possibility of representing natural objects on canvas. But many would deny vehemently that it is a legitimate criticism of a picture to point out that it is not much like any natural object, and that the object to which it is least unlike is exceedingly ugly; to understand the relation between natural and pictorial beauty and the place that representation should play in painting, a critic must study art with sufficient care to gain some appreciation of an artist's feelings.

In the same way I admit that these strange ideas have some place in science. They have influenced the inventor in framing his theory and, even more, the scientific world in understanding and accepting it. To them is due part of the intrinsic attractiveness of the theory. But they are not an essential or permanent part. The theories from the outset derived attractiveness also from mathematical elegance, and they are coming to derive it from familiarity and established use. The paradoxes about clocks and measuring-rods are vanishing from modern expositions of relativity; in the next generation they will probably disappear entirely from scientific writings and be remembered only by the misunderstandings that they have generated. To regard them as the main feature of the theory, and to base on them our conclusions concerning the nature of philosophical reality as revealed by science, is a vulgar error; the nature of their reality can be appreciated only by those who have studied science sufficiently to know how a scientist thinks.

For when a scientist says that a theory is true and that it gives information about reality, what he (like most others) means is that it satisfies his intellectual cravings. Now the chief of those cravings is a desire to know facts, just because they are facts, and a desire to explain them or relate them to each other in some sort of coherent scheme. The scientist is in little danger of confusing hypotheses with

laws, because a power and a wish to distinguish between imaginary and real facts is ingrained in his very nature. Nobody can understand what his attitude is towards the analogies that form part of theories who has not some experience of and sympathy with the scientist's attitude towards facts. It is not necessary that he should know all the facts in detail, for a scientist can appreciate fully theories in a branch of science of which his knowledge is very superficial. But he must know that there are facts behind the theory, and that the prime function of the theory is to explain those facts. Those who by temperament are naturally averse from facts, and have been encouraged by popular expositors to regard the experimental foundations of a theory as something wholly separate from its meaning, are as little fitted to discuss scientific theories and scientific reality as an intelligent but hermaphroditic oyster would be to appreciate the beauty and significance of erotic poetry.

Must we then admit that modern physics has no special message for philosophy, and that philosophers must return to regarding science merely as the empiric description of a field of experience in which they feel a scant interest? I do not profess to know. But it seems to me that if philosophy has anything to learn from recent science, the lesson is to be found, not in particular theories, which, like all theories, are liable to sudden modification and supersession, but in the great and probably permanent change in the relation of mathematics and physics.

Much of mathematics takes its origin from experimental science, arithmetic from enumeration, geometry from the measurement of rigid bodies, and so on. In separating from the parent stock, mathematics confined itself to one part of experimental relations, the numerical part; it was thereby led to alter and generalize the concepts from which it started, producing from them concepts without validity in the experimental field, such as imaginary numbers, hyper-space, or continuity. When these first appeared, experimenters were inclined to hostility; they doubted whether any good could come of the study of concepts devoid of physical meaning. But they soon found that the new concepts were useful in calculation; they accordingly admitted that they were permissible, or indeed *essential, in mathematical argument, though they still insisted* that methods involving them were valid only in so far as they were mere substitutes for others in which physical meaning could be assigned to every concept. In the last stage they have realized that their criterion of physical meaning was too narrow, and that some of their apparently insoluble problems could be solved by admitting purely mathematical ideas into their theories (but not, of course, into their laws) on a standing of *full equality with ideas that derived their* meaning from experimental analogies.

The first two of these stages can be paralleled in the relations between philosophy and science. Science became a separate study when it confined itself strictly to one part of the field of experience, in which personality can be eliminated and universal assent obtained; it developed concepts, such as that of an experimental law, which have no validity for experience outside its own field. Philosophers were mainly interested in this experience; they protested therefore that these concepts were not real, and doubted whether science could lead to truth. More recently they have admitted that the concepts of science are completely valid within its own field, and that scientific inquiry is the only method of discovering the kind of truth that attaches to empirical experience; but they are still loath to admit that scientific truth is whole or complete truth unless it survives re-examination by the tests that they have been in the habit of applying. Will the last stage come? Will philosophy ever find that many of its problems have been insoluble because its criteria of truth and reality are too narrow, and that they can be solved if these criteria are revised and widened so as to admit all the conclusions and concepts of science to the most complete forms of truth and reality?

IMAGINING AND REASONING

PROFESSOR H. WILDON CARR

I WISH to discuss the nature and the relation to one another of two kinds of mental activity, and I can most clearly indicate what they are if I take some illustrations from familiar experience.

Imagine you are walking by a moonlit sea. The ripples sparkle in a broad expanse of sheen, forming a definite triangle, its apex far off on the surface of the water and its base spreading out on each side. As you watch the reflected moonlight you may see some object, say a boat propelled by rowers, move into the gleaming zone and become suddenly bathed in resplendent light. The rowers seem to have come out of the darkness into the light. The moonbeams which before were not falling on them seem now to be dazzling them. You know, of course, for you understand the laws of reflection and of the convergence of light rays, that this sudden illumination of the rowers in your prospect does not correspond with any change whatever in their actual experience, yet you find the illusion practically impossible to dissipate.

Again, imagine that you are in a room the walls of which are faced with mirrors and which is illuminated within. There will be no limit to the visible extension and a very sensible limit to the tactual extension. The phenomenon is familiar enough, and usually described as natural illusion. You know, you think, the exact position of the reflected image, it is reflected from the surface of the mirror, yet you are unable to locate it there or even to think it there, it lies for you somewhere behind the mirror. The visible extension behind the mirror has no counterpart whatever in the real world, yet you cannot by any effort or contrivance destroy the illusion.

Once again, imagine you are observing in a laboratory the projection of a beam of light from an incandescent gas through a prism to a screen. You see the band of the spectrum. Here there is no illusion. You see and can only see the spectrum, but you regard the spectrum as a phenomenon, and the real thing as electronic orbital movements in atoms, which you can never see.

In each of these cases what you objectify is a phenomenon, giving that term the recognized meaning of something existing in nature and not in your fancy, which yet cannot claim independent existence, whatever be its ground or cause, because its existence depends on the observer and his relation to the reality observed Whether or

not everything we observe is a phenomenon in this sense we need not inquire. It is sufficient for our present purpose that it should be granted that the sheen on the water, the visible extension behind the mirror, the spectrum on the screen, are non-existent in abstraction from the relation of the observer to the real thing, whatever it be.

I want to submit the experience of which these illustrations are typical to psychological analysis.

We shall easily distinguish three factors. First, sensitivity, the passive power of receiving stimuli from without and experiencing them in the form of sensations; it is clear that without the organization of the special senses there can be no experience of phenomena. Second, reason or understanding, an active power of reflective consciousness. Third, imagination, an ill-defined factor, yet necessary if we are to account for the arising of an illusion.

It is the status of imagination which I wish to discuss. It is usually regarded as a subjective activity dependent on the passive power of receiving and retaining sense-impressions, recalling them as memories, and hence of recombining them more or less fantastically. Fantastic association and dissociation are the essence of imagination. It is recognized that imagination may have high æsthetic, intellectual, and moral value in the realm of art; it is what we seek to eschew and banish from the realm of science. We guard ourselves against the imagination; it is the fruitful source of illusion and error.

I am going to defend what to many may appear a paradoxical position. It is that imagination is more original, more fundamental, and more essential a factor in the mental life than sensation or understanding or reason. Were there no imagining, sensing would be meaningless, and thinking would be impossible, for there would be nothing to think about.

Let us see first what the philosophers have had to say on the question. The historical development of the problem in the modern period is most instructive to follow. Here I can of course give it only a brief and cursory reference. When modern science and philosophy arose in the seventeenth century the new method of doubt fixed attention upon the deceitfulness of the senses, and the false apport of the senses was attributed to imagination. Thus Descartes instances the case of persons who have undergone amputations, and still localize sensation in their non-existent limbs. Imagination was regarded generally, by the Cartesians, and also by the empiricists, as a kind of riotous activity to which the mind was subject when not under the control of the intellect. Imagination for them had no positive function and played no necessary part in conscious experience. As mental activity it presented a strong contrast to discursive reason which strives for

clearness and distinctness. Imagination was identified with confused and obscure thinking. Consequently the scheme of human knowledge was: first, impressions of external objects and internal desires and emotions on the senses; second, thinking or reasoning on this sense-given matter, out of which arose, third, the laws of association. This was the full account of mental activity on its theoretical side. Any slackening of the intellectual work led to confusion and obscurity, and this when it took the form of actual illusion was represented as the active work of a lively imagination. Yet even this lively imagination was an illusion, because imagination for them was an absence, not a presence. In sleep, for example, when the senses are closed to the external world, and the animal spirits, according to the theory then held, are coursing through the brain, reviving traces of past impressions, and under no control of reason, we have the illusion of dream. Imagination was identified with this negative reality of the dream state.

Kant was the first in the line of the historic philosophical development to discover that imagination is not the name for uncontrolled intellectuality, but a positive factor with its definite place in the scheme of knowledge, an activity *sui generis* in the formation of experience. It is curious and instructive to see how Kant was led to this discovery. Imagination is invoked by him in the *Critique of Pure Reason*, in the transcendental æsthetic and in the schematism of the categories. In the transcendental æsthetic he shows how the definitions, propositions, and operations of mathematics, though purely ideal in form, are yet wholly dependent on sense imagery for content. The logical understanding cannot get to work without the aid of the æsthetic imagination. In the transcendental analytic he shows how the concepts of physics in the pure forms of the categories of relation—substance, causality, reciprocity—are dependent on the imagination for the subsumption under them of the sense-matter of the universe. He was led to the important distinction between the reproductive and the productive or creative imagination. The reproductive imagination is the simple projection forward into the future of imagery recalled from the experience of the past. It differs from memory in being anticipation, not recollection. The productive imagination is that which gives shape, figure, objectivity to the manifold of sense. It creates, in fact, what the Gestalt psychologists now distinguish as *Gestalten*. This recognition of the imagination as a creative activity at once led to a differentiation of the realms of art and philosophy, and the first result of this new direction of mental science is the æsthetic theory of Kant's *Critique of Judgment*. It is not, however, till our own day that we have in the work of a contemporary philosopher, Benedetto Croce, the theory of the autonomy of imagining and

imagination as a distinct moment in the life of the Spirit. The æsthetic activity, creative of images, is in the theory of Croce the pre-condition of the logical activity, creative of concepts.

Let us turn from the philosophical aspect of the problem to the scientific. How would the psychologist in the interest of his science analyse and interpret an experience such as we have instanced in our three examples? The psychologist approaches his problem unencumbered with any assumptions or inferences of metaphysical causation. Whether he be a behaviourist or an introspectionist, reality for him is psychical experience in its immediacy. His one interest is to discover by analysis the data of consciousness and the factors which constitute experience. Two kinds of psychical elements are easily recognized and readily distinguished, sensations, the æsthetic manifold; and percepts, images or ideas, the logical or intelligible manifold. To these the subject of experience is passive or receptive, he responds to them in thinking and acting.

We are guided in our psychological analysis by the science of neurology. We know the mechanism of conscious action. The organism of a conscious agent is a sensori-motor system of reflex arcs, at one end of which is a sense terminal, at the other a muscular contraction. The nervous system is an integration of innumerable individual unit activities. On the psychical side this is experienced as sensations, a manifold of individual sense-impressions, transitory and unrelated existences, which are retained in memory, and can be recalled after they have ceased to exist, though in a different form, as images or representations. The neurological processes are mechanical and automatic; the psychical processes which accompany them appear to be dependent on them, and yet at the same time their whole significance depends on their autonomy. No one, so far, despite the most heroic efforts, has been able to impart intelligibility into the proposition that the brain thinks. The only thing the materialist can affirm, basing his appeal on facts, is that where there is no brain there is no thinking. The behaviourist indeed goes farther than the materialist, and denies that thinking or feeling is the product of any material or spiritual organ, whether we call it brain or mind. The mechanisms of the organism which result in actions, and the discursive thinking which results in ideas, are, he holds, not two distinguishable processes, but one and identical. They are two ways of regarding a single sequence of events.

The most effective criticism of the behaviourist theory came from Mr. Bertrand Russell in his *Analysis of Mind*. It would be tenable, he declared, were there no images. By images Mr. Russell seems to have meant memory images, and not perceptual images, not what are now called *Gestalten*. The argument was that a double-aspect theory of mechanical movements and psychical processes is

rational if there be the possibility of a point correspondence between the constituent movements of the mechanism and the constituent processes of the psychism, and such correspondence is easily predicable of sense-data; but images are not sense-data, and they enter positively into the psychical situation, while what may be thought of as having corresponded with them on the physical side cannot be thought as existing in any meaning which physics can admit. The argument would have had still greater force had it been applied to *Gestalten*, to perceptual as well as to memory images.

We are brought then to the main problem What are images, and what is the imagination which creates them? Images are not peculiar to human nature. The experiments of the Gestalt psychologists have shown that they have a place in the animal mind. They are an essential element in conscious activity wherever we meet it. It is imagery, not sensation, which determines any particular situation. It is imagination, not sensation, which creates the visible extension behind the mirror, the sheen on the water, the colours and bands of the spectrum Images are pictorial and integral. If they present or represent an object or a situation they present it in its entirety. Suppose, to take an example from common life, you are invited to breakfast. There comes up in your mind an image which may include the odour of coffee and the sound of frizzling bacon—these are or have been sensations, and the image of breakfast may recall them, but it is the image, not any particular sensation or group of sensations, which will determine your response and govern the disposition of your action. What is true of the image of breakfast or of the breakfast table is true of the image of the world itself which is part of our daily consciousness. Our world is an image, and imagery is inseparable from our world. Without it we could not act continuously or experience the perfect unity of the real.

Psychologists have always thought that the image is composite and compounded. Following the principle that there is nothing in the understanding which has not been in the senses, it has proceeded as though its task were to construct the image artificially, or discover the natural process of its construction, out of what alone exists, the stream of transitory sense-impressions. The associationist psychology explained images by the laws of association, similarity, and contiguity. Images were thought to be no more than an aggregate or assemblage of sensations, and their variety and diversity were attributed to the fact that sensations of one kind are successive, not simultaneous. The traces therefore of past impressions are revived as idea, and associated with new impressions. By these associations judgments are made and concepts created. Images appeared therefore as the product of judging or reasoning

on sense-impressions, themselves irreducible. Conscious experience was accordingly resolved into a manifold of impressions on a sensitive organism and an integrating activity. What we have now discovered, and the Gestalt experiments have confirmed, is that images are more original than sensations, and imagining is more fundamental than feeling or judging. How are we to rationalize the paradox? The reply is by a philosophy of the organism.

I say a philosophy, not a science of the organism, because in philosophy we can employ a finalistic method which in science, at least in its narrower meaning, is rejected. We can ask in regard to living activity the question which Kant asked in regard to knowledge: What are the *a priori* conditions of its possibility? Still more specifically, surveying living activity in its full extent we can inquire what are the needs of the organism which consciousness alone will enable it to meet, and we can deduce therefrom the nature of consciousness itself.

Living activity is individual, and every individual enters on its life history with a nature preformed and predestined to a definite range of activity. It comes into existence fitted in advance to respond to definite stimuli with appropriate action. It obeys an inward urge to express its nature in the conditions which favour that expression. Consciousness in a living creature appears as sensitivity to stimulus, which takes the form of feeling and enlightenment or understanding. Feeling and understanding are the directing forces in the forming of its actions. Consciousness varies in kind and in degree and in mode of expression, yet it is always relative to action and directed to the conservation of the individual or racial life. Consciousness appears the very essence of life, the terms are often synonymous, and yet life seems everywhere to dispense it with a strict economy. In the vegetable world individual natures express themselves without calling it in aid. The conditions of plant development depending on the fixation and immobility of the individual require it to imbibe its nourishment from the soil in which it grows and the atmosphere in which it breathes. Consciousness would not serve it, indeed it would be a handicap, and if we suppose consciousness to exist in right, it is suppressed or inhibited in fact. In the animal world, on the other hand, the free mobility of the individual makes consciousness in some degree a necessity of existence. Yet everywhere it seems proportional to the particular need. The purpose it serves is obvious. It enables the individual to form and carry out the actions which are appropriate to procure it food and maintain its existence. Wherever consciousness exists, it is one with the activity of the individual who possesses it. This discernment of the purpose of conscious activity enables us to determine its form *a priori*. We

can, that is to say, put to ourselves the question, what are the *a priori* conditions of the possibility of consciously directed actions? At once we see that the first condition is that the situation shall be present to the mind of the individual *in imagery*. How otherwise could it act? Try to imagine, for example, an individual sensitive to the pain spots of the skin and to nothing else, and able to perform the reflex muscular actions which they originate, how could it direct its actions to purposive relief unless it could imagine? It might react to stimulus by movement, but it could not direct its actions. For this it must imagine. What is it to imagine? It is an activity *sui generis*. No sort of sensitivity to pain spots could generate images of needles and pins, sharp stones or thorns, and point the way of escape from them And no combination or succession or aggregate of pain impressions could compose an image or provide material to thought Certainly no thinking about pain impressions could generate the concept of an external cause. For conceptions there must be imagery.

Everyone recognizes that the perceptual world is the condition of the conceptual world. The perceptual world is the world of sense imagery. This imagery is not created by thinking in the logical meaning of the term. There is then an activity logically prior to thinking and its condition, an activity of imagining which gives us the perceptual world. Out of what then does the imagination create its images if not out of sense-impressions? What is the nature of its creation? A creation out of nothing offends the principle of intelligence itself. We have no need to resort to any such absurdity. For our answer we have only to turn to the living world. Every individual is born with a preformed nature, and its life is the unfolding and development of this nature in response to the external conditions which favour its development. The creative force is the dynamic character of the life principle itself. Wherever the expression of this life principle is conscious, it takes the form of an opposition between what is latent within and kinetic without. In more familiar phrase, consciousness must assume the form of a subject-object relation. This relation is not the external connection of independent existences, that is, it is not a relation of mind and nature each postulated as self-existent. It is a relation of polarity in which each factor derives its whole meaning from its opposition to the other. Take any living conscious creature in the first moment of its individual life, its nature consists of possibilities, latent and unexpressed, and its life activity consists in the continuous expression of this nature. The living activity which unfolds itself is *expression*. This expression we know as *images*, a form of knowledge quite distinct from sensations and from concepts or ideas. Images are particular, they are as private as sensations. The artist

can give them extrinsic form, fixing them as it were in material, making tones, colours, plastic shapes become language, but the image exists only in the mind. The imagining power of the mind is therefore freedom to express, but what it expresses is determined by intuition, that is by its nature, which is the whole inherited past. The natural urge of every creature is towards expression. Nature exists as intuition, and intuition finds expression in imagery. This agrees with the fact that images are particular and characteristic of the individual and the species, and yet not arbitrary. The very fact that the imagination is capable of riotous extravagance shows that normally it is under the strong control of the organism. The fantasies of Don Quixote have the same origin as the commonplace imagery of Sancho Panza. This imagery is not generated by feeling or by thought, but by the life itself; and this activity of imagining is not a sensing or a reasoning, but an activity of æsthetic creation. This is the conclusion to which a philosophical analysis of experience must lead.

Let us now try to appreciate the scientific import. The Gestaltists have proved by their experiments that in all cases of recognition what is identified is not a sensation or aggregate of sensations but a shape, and like the ghost of Hamlet's father "a questionable shape." Can we conceive any way by which a shape is generated out of sensations and associations? Are shapes facts or fancies? If they are facts, it seems as though we must resolve them into the only things psychology has recognized as fact—sensations and their associations. Sensations are facts because we can correlate them with organic stimuli, and associations are facts because we can represent them as real relations. Images, shapes, *Gestalten*, come under neither category. If they are facts, not illusions, they must fall under a distinct category. We must recognize that imagining is a mental activity distinct alike from feeling and thinking, with an objective product, images, distinct alike from sense-impressions and ideas. In the mental life sensations are the occasion of the evoking of imagery not its cause, and images not sensations provide to thought the matter of its concepts.

To return to the examples of imagining from which we set out, the sheen on the water, the extension behind the mirror, the band of the spectrum—these are subjective appearances with absolutely no objective counterpart. They are shapes or images which do not exist in the objective world we *conceive* as Nature. The light which we conceive as radiant energy does not itself reveal the world of shapes and images to privileged souls. Like God's rain, it falls on the just and unjust. It is by the active principle of life itself that we must interpret the shape or image which gives to each individualized form of its activity the world of its effective action.

RIGHT AND GOOD:
CONCLUSION—THE LIMITS OF ETHICS

PROFESSOR W G DE BURGH

I

THE two basic forms of action distinguished in the preceding articles, viz., moral action, where *praxis* is for *praxis'* sake, and action for a good, where *praxis* is for the sake of *theôria*, are found in close relationship to one another in human life. The part they play is rather that of abstract moments in a practical process than that of self-contained and isolable bits of conduct. No philosopher is likely to discount the importance of thus analysing the concrete into its factors before he rectifies the abstraction by showing how they co-operate in actual experience. In any individual biography we can find acts and courses of action in which duty is the dominant motive, and others in which the dominant motive is desire of good. Similarly, when we compare different biographies with one another, some exemplify most strikingly the struggle for righteousness against unruly passion, others the spontaneous aspiration of the soul to attain the goal of its desire. But neither the moral law nor the *summum bonum* wields an exclusive sovereignty. St. Paul and Luther, in their warfare against carnal desire, drew strength from the ideal vision; nor were St. Bernard or Spinoza, for all their absorption upon union with the divine, strangers to the call of moral obligation. In the lives of ordinary men, the types of conduct are, perhaps, more evenly balanced; yet here also the distinction is discernible. Moreover, it is easy to see how, despite their intrinsic difference, they come to be associated and "by just exchange" to effect a mutual enrichment.

(*a*) We have already noted that habitual right action and the character fashioned thereby are pronounced "morally good," by the agent himself or by a spectator, passing judgment theoretically after the event. Thus, when a courageous act, done *ex hypothesi* from sense of duty in face of strong natural fear, without thought of any ulterior end, is envisaged as "good," the result is not merely to strengthen, as all discharge of duty necessarily strengthens, the man's power of moral volition, but also to furnish an additional motive for like actions when subsequent situations call for them. He will desire to act bravely, because he knows the worth of brave action in the fashioning of good character. Duty thus acquires a

certain sweetness in the doing. On the other hand, there is obvious peril in such concentration on the goodness of dutiful action. If it should provoke to the thought "How good I am to do my duty!" or even "How good a thing it is to do my duty!", it gives a handle to the most deadly sin to which the moral life is liable, self-complacency. The moral man needs to guard sedulously against acquiescence in the cherished code. His protection lies, as Kant saw, in the realization that the command of duty, to will perfectly, surpasses all endeavour after its fulfilment. Only so long as "my station and its (finite) duties" is taken as the be-all and end-all of morality is the door left open for self-satisfaction.[1]

(*b*) So, again, there is a natural transition from action *sub ratione boni* to the idea of moral obligation. The higher and more remote the goal of desire, and the clearer the recognition that thirst is not to be quenched save in the fruition of a *res infinita et æterna*, the steeper is found to be the path leading to its attainment. It grows steeper and steeper all the way. There will thus be many stages in the ascent when, despite enrichment of ardour in aspiration and of insight into the desired good, the will is beset by the allurements of transitory satisfactions and falters in its freely chosen purpose. There are times without number when the artist or the scholar, however absorbed he be in devotion to his calling, finds his spontaneity in abeyance, and has to revive a flagging energy by appeal to the authority of the moral law. At such moments the clouded insight needs to be clarified by the reminder that it is a moral duty to be faithful to the vision of the good. Dutifulness comes into play, as a motive to particular actions, within the general scheme of a life dedicated to love of goodness. For it is not only moral goodness, but goodness in every form, as beauty or knowledge or love, that is a possible source of moral obligation There are, indeed, other sources, besides the promotion of good, *e.g.* a promise made in the past, which are fruitful in generating duties. Nor do any of these general *prima facie* obligations serve as a complete explanation of the obligatoriness of a particular concrete duty.[2] Moreover, the duty when recognized commands obedience as an end in itself, independently on the good it bids us realize. The co-operation of love of good and duty may be illustrated by a familiar example, that of a mother's relation to her child. Normally the motive of maternal affection suffices to secure action for the child's welfare; nor should we wholeheartedly commend the mother who needed habitually to remind herself that its promotion was a moral duty.

[1] It may be added that duty itself, as we shall note presently, enjoins (amongst other things) promotion of good.

[2] On these *prima facie* obligations, see Ross, *The Right and the Good*, ch. ii, pp. 19 ff.

Yet in the not infrequent cases when the natural affection errs either by excess or by defect, the principle of duty (always supposing that it has been trained by exercises in other relationships) is ready to spring into conscious activity, as regulative of a strong but capricious impulse. Further, the natural affection itself is refined and ennobled by the discharge of duty in other fields of life. There is an underlying unity in human personality which, despite real differences of activities and interests, precludes severance into water-tight compartments. A wide gulf separates the display of maternal affection at the level of what is almost animal instinct from the wise and beneficent love that bears the impress of reasoned thought and moral habituation. Lastly, the moral motive is often found in association with other motives, such as love of beauty or personal affection, prompting to one and the same act. Kant was in error in holding that an act had value only when done exclusively for duty's sake. The *moral* worth, it is true, depends solely on this motive; but, as we have seen, moral worth is not the only kind of worth; and the value of an act, prompted by love in conjunction with a sense of duty, is enhanced, not diminished, by what Kant would regard as its "impurity."[1]

II

We turn next to the religious life, not to discuss its credentials or its value, but simply to define its relationship to morality, and its yet closer relationship to the pursuit of the good. For the present purpose, therefore, we shall assume that God, the object of religion, is a genuine reality; and, further, that the experience of God in religion is an experience *sui generis*, distinguishable from other specific types of experience, such as art, science, or morality. Religion differs from these alike in the peculiar nature of its object and in the nature of the response which that object provokes in the human subject, viz., worship. The question of the origins of religion from experiences that were non-religious does not concern us.[2] We shall consider religion in its richest known expressions, not as the

[1] See Dr. Ross's interesting remarks on this question (*op. cit.*, concluding chapter, pp 168–173). He criticizes the term "mixed motives," substituting "the co-operation of elements to form a single motive." He would, of course, reject the limitation under which in these articles I have spoken of "moral worth."

[2] See Alexander, *Space, Time and Deity*, Bk. IV, ch. II, *init.* "Various emotions enter into the full constitution of the religious sentiment—fear, admiration, self-abasement—but its distinctive constituent is the feeling of our going out towards something not ourselves and greater and higher than ourselves, with which we are in communion, a feeling whose object is not that of any of these subsidiary or suggesting emotions, nor of any combination of them" (vol II. p 373)

crude feeling after God of those races which, in our ignorance, we call "primitive," though the so-called primitives were in fact already far advanced on the path of human development. If we touch for a moment on the historical, it is to note the parallelism with the successive stages in the history of the two other types of life with which we have been occupied. There is (1) a pre-religious stage, when the sense of the occult and aweful is directed not upon a concrete deity, but upon a mysterious impersonal source of power, provocative of dread rather than worship.[1] On the properly religious level, we find (2) a succession of stages, theriomorphic and anthropomorphic, which may be gathered together under the rubric of polytheism, the worship of local and finite gods, culminating in monolatry, *i.e.* the exclusive worship of a single god by a given tribe or nation, while the gods of alien communities are yet recognized as real.[2] The advance from polytheism and monolatry to (3) monotheism is conditioned by the intimate association of religion with the growth of intellectual inquiry and/or of the moral consciousness. Among the Greeks, as we see in Plato and Aristotle, science and philosophy issued in the formulation of a monotheistic postulate; God, defined as the Good self-moving Soul or as the First Mover being required to "save the phenomena" of motion in nature. Among the Hebrews, a people who, in antiquity at all events, were innocent of any scientific curiosity, the belief in one God, the Creator and righteous Governor of the whole world, was the fruit of the soul's travail in prolonged and bitter ethical experiences. In the higher religions of to-day monotheism has been permeated through and through by both the speculative and the ethical inheritance of mankind. The religious life is, in principle, the response of man's whole personality; of his intellect, his emotions, and his will, to the presence of the One individual and transcendent source of being and of value, the *A* and the *Ω*, who is at once the sovereign reality and the sovereign good.

What then is the relation of religion to human action? We have to remark, first, (1) that while religion always implies a rule of

[1] The "numinous" object is not necessarily an object of worship. Any object of experience may arouse the sense of numinosity. We find it surviving, in civilized mankind, in the eerie feeling provoked, say, by a graveyard at night. For Kant, again, not only "the moral law within," but the sublime in Nature ("the starry heavens above"), were charged with the numinous. A like impression would be produced by the magnificent and heroic in human personality and action, *e.g.* by a Cæsar or a Goethe, or the spectacle of Nelson bringing his fleet into action at Trafalgar, entirely apart from any religious, or even ethical, relevance. The cult among certain Hindus that gathered around John Nicholson after his death illustrates the transition to religious worship.

[2] The recognition by the Greeks of a mysterious impersonal power (Até Moira) behind Zeus may be regarded as a dim recognition of the inadequacy of any finite conception of the Unconditioned.

conduct, it is never merely practical. On the one hand, it controls men's actions, in that it (*a*) enjoins religious observances and acts of worship, (*b*) requires obedience to the will of God in every expression of human will, and (*c*) arouses in the worshipper a desire for self-discipline and purification to fit him for the life of communion with the divine. But in religion, as in the endeavour after the Good, *praxis* is a means, and not an end. Religion begins and ends in vision (*theória*). From the outset it imparts a revelation of truth, which generates an outlook upon life, couched, it may well be, in naïve and fragmentary imagery, but capable of ripening into a theodicy, which, like that of the *Divina Commedia*, appeals to the developed intelligence. Religion, as we have said, claims to direct and to satisfy man's whole nature, and especially the desire of the intellect for speculative truth. Moreover, its goal lies in the fruition of the *visio Dei*, a theoretical activity wherein labour is quieted in rest, and desire in the love that springs from knowledge of the sovereign Good. Even for the saint *in viâ*, the highest activity is the contemplation of God, so far as this is possible under this-worldly limitations. Once more, the very practical mission of religion requires a knowledge that is more than a working creed. Sin cannot be conquered by mere discipline, but only by a vision that involves ascent from *praxis* to *theória* of the object that stirs to regeneration. This is evidenced not only by the history of Christianity, which from the first ages appropriated to its practical purposes the rich inheritance of Greek philosophy, but by that of Buddhism, the chief missionary faith of the East, which, though initially indifferent to speculative problems, developed naturally, in the five centuries succeeding its foundation, both a theology and a metaphysic. No religion that is true to its vocation can tolerate the subordination of theoretical to practical values. To ignore the claim of reason means for religion among civilized peoples a sure and speedy death.

Secondly (*2*), religion implies belief in the reality of its object; the primary *credendum* is existential, not an "ought" but an "is." The distinction of ideal and real, of value and fact, which, as we have seen, constitutes the unsolved antinomy of moral experience, is transcended in that of religion. For religion the ideal is God's will, present in the life of the many members of the invisible community, "in which, through faith for them, and for God we do not know how, the bad self is unreal."[1] We cannot here discuss the manner

[1] *Bradley, Ethical Studies, p. 231; cf. the concluding chapter, and especially p. 331.* "Faith involves the belief (1) that the course of the external world, despite appearances, is the realization of the ideal will; (2) that on the inner side the human and divine are one. Or the belief (1) that the world is the realization of humanity as a divine organic whole; and (2) that with that whole the inner wills of particular persons are identified. Faith must hold that,

of the solution offered by religion, and in particular by Christianity, with its doctrines of grace, justification, and atonement. It must suffice to indicate the bridge that affords a passage from morality to religion, a bridge which can only be constructed, if at all, from the side not of morality but of religion.

We are now in a position (4) to define more precisely the relationship between the life of religion and that of moral duty. On the less developed levels religion often appears dissociated from morality; its practical observances may scarcely touch the ordinary business of life among its worshippers, and may in certain particulars enjoin actions which would be condemned as immoral by the contemporary ethical code outside the religious pale.[1] But the higher religions are one and all ethical; the conduct they enjoin is, morally, in harmony with the highest moral convictions of the community. John Stuart Mill, for instance, claimed that the Utilitarian ethic was in entire accord with that of the New Testament. This assimilation of morality by religion operates in two directions. On the one hand, God is ethically qualified, not only as a God who loves righteousness and hates iniquity, but as a God who is Himself righteous, or, rather, is very righteousness. It is true that the ascription to God of "moral attributes" involves the use of analogy; God is moral *eminenter, i.e.* in a uniquely eminent way, and His goodness is divine goodness, transcending not only in degree, but in kind, the creaturely goodness of men. As Aristotle said long ago, it is absurd to speak of God as doing His duty in human fashion, or as exhibiting the virtues of temperance or courage in the manner of the good citizen of the Greek city-state. On the other hand, men's moral duties come to be regarded as divine commands. This is so at each stage of moral and religious advance; finite duties are ascribed to the will, now of finite gods, now of the one infinite God; and the recognition of God's unity in monotheistic faiths heralds that of the unconditionality of moral obligation. Yet, despite this intimate association, the difference remains. How else can we account for the fact that in all ages the saint has sought and found a welcome amongst publicans and sinners, while the moral Pharisees of his generation have proved his bitterest foes? No one will dispute that a man may be highly moral without being in the least degree religious; it is equally true that those who are keenly sensitive to God's presence may be afflicted with lack of

in Biblical language, there is 'a Kingdom of God,' that there is an organism which realizes itself in its members, and also in those members, on the subjective side, wills, and is conscious of itself, as they will and are conscious of themselves in it."

[1] Cf. Whitehead, *Religion in the Making*, p. 37. "Religion is the last refuge of human savagery. The uncritical association of religion with goodness is directly negatived by plain facts."

self-control and moral blindness.[1] The religion of these last is doubtless defective as religion; but to deny it the name of religion would be to shut our eyes to palpable facts. Again, the *praxis* of the converted sinner, even though it be that of a saint, is wont to be marked by an unconventionality, especially in a predilection for other sinners who are unconverted, that outrages the conscience of the man who lives by mere morality. It seems that moral conduct, without ceasing to be moral, is raised to a higher plane when it has been informed by the spirit of religion "God," said Richard Hooker, "cares a great deal more for adverbs than he does for verbs." Only those who deny that the motive is relevant to the rightness of an action can be blind to the difference in the quality of conduct when inspired, not merely by the motive of duty, but by the desire to do God's will and to live for His glory.

> All is, if I have grace to use it so,
> *As ever in my great Task-master's eye.*

The point was made, with his customary lucidity and precision, by St. Thomas Aquinas. Moral excellence, he held, was attainable by man by the natural light of reason, without the aid of the Christian revelation. The virtuous pagans were evidence for that; and Aristotle's *Ethics* sufficed as the expression of its theory. Christianity supplemented this self-contained morality of Reason in two ways. First, it revealed the three theological virtues, faith, hope, and charity. Thus much by way of addition. But, secondly, the influence of revelation and divine grace was manifested within the field of rational morals, in that it transfigured the four cardinal virtues of prudence, temperance, courage, and justice, by raising their practice to the plane of *virtus infusa*. What is noteworthy here is that religion effects this enrichment and ennoblement of morality, not so much by explicit ethical teaching, as by the new spirit breathed into the human soul by experience of the divine presence. It was not by enunciating a moral code, but by the regenerating influence of personal contact, that the Founder of Christianity revolutionized the lives and practice of His followers.

(5) The affinity of the religious life to that directed towards the Good is much more intimate. For in both *theôria* is dominant over *praxis*; both have their source in spontaneous aspiration after an object of desire, and their goal in fruition of an ideal Good. Indeed, religion might be subsumed under the life *sub ratione boni*, but for

[1] See Alexander's remarks on this, *Space, Time and Deity*, vol. II. pp. 404–405. He insists that it is wrong to "call such persons hypocrites, because their life seems incompatible with their religion," and adds that "there is no good reason to doubt the sincerity and strength of the feeling towards God which they have."

two reasons: (*a*) that the scope of religion is not limited to practice, even though the practice be for the sake of vision; and (*b*) that in religion the *summum bonum* is identified with God. This last is the more serious ground for their differentiation as types of life. The distinction is obvious at the stage where religious worship is directed to a plurality of finite gods and action to a plurality of finite goods; though even here there is association, in that the goods in question are regarded as gifts of the gods, and arouse gratitude and love in the recipients. It is when men have come to recognize that the *summum bonum* must be sought in a *res infinita et æterna* that identification of the Good and God is naturally suggested. But, just as in the case of the identification of the Moral law with God's eternal will to Right, the passage implies a *salto mortale* into the realm of religious faith. The history of Platonism furnishes a striking illustration. In Plato God is not the supreme reality or the ultimate source of value. He creates the sensible world in the likeness of the Forms, and for the sake of the Good. But He is not Himself the Good; He is not a Form, but a soul; the sovereign reality and value is the Form of Good, which is the object of God's rational contemplation. With the growth of the religious consciousness in the closing years of the pre-Christian epoch and the first centuries A.D., this severance of God from the Good was felt to be a stumbling-block, and Neo-Platonism revised the Platonic doctrine by interpreting the intelligible world as a trinity in unity of divine substances and the Forms as the thought-contents of the divine intelligence. The identification of the Platonic Good with the God of Theism was finally effected when Christianity, through the mediation of St. Augustine, appropriated the Neo-Platonic legacy. Faith in ideal goodness, therefore, may incline to, but does not necessitate, faith in God. There are many thinkers to-day who, holding to the former but rejecting the latter, bear witness to the reality of the distinction between the life *sub ratione boni* and the life directed towards God. They occupy a position in this matter midway between those who regard the *summum bonum* as an *ignis fatuus*[1] and confine their quest of goodness to the sphere of finite goods, and those who, realizing that the *summum bonum* nowhere exists in the temporal world, seek—and find—it in the sovereign of the other-worldly order, revealed in the experience of religion.

(6) Thus the two types of practical life present a problem, insoluble by ethics, which religion claims to solve. Stated in philosophical terms, it is the problem of the synthesis of fact and value. Not that the severance is absolute even within the ethical field.

[1] E. F. Carritt, *Theory of Morals*, p. 74. Is it probable that the goal followed unanimously by philosophers for more than two thousand years should prove a mere hallucination?

For there we find (*a*) that goods are actualized in living persons, in the scientist who wins knowledge and knows that he knows, in the artist who creates and contemplates things of beauty, in the moral agent who labours consciously to do his duty, in the lover whose life is motived by the vision of good. Even imagined good can only be thought as good for a possibly existing subject. We find, again, (*b*) that the actual course of events is such that goodness is realized within it, not as a mere thought-interpretation superimposed by the mind upon given fact—for barely given fact is never forthcoming—but as a character of the real. On the other hand, the ideal implied in all actual valuations is, of necessity, imperfectly realized in them; what we call the "actual" is a process of becoming, which, as Plato saw, lacks the stability of true being and is therefore never fully "actual." Our value-judgments thus present a struggle or tension of two moments, the temporal and the eternal, within human experience; a struggle whose issue cannot be decided within the limits of the spatio-temporal order. We are led to the thought of an other-worldly reality, a thought which, apart from religion, remains a mere thought—in Kant's language, a regulative Idea—a "value" standing in irreconcilable contrast to the "facts" of this-worldly experience.[1]

III

We come, finally, to the question of the diversity of values. The problem is not that of pluralism within each of the main groups of valuable objects, *e.g.*, whether there is one ultimate truth or a plurality of ultimate truths standing side by side in irreducible togetherness (Herbart); whether, again, a single type of beauty is displayed in common by the creations of the several arts; and whether intrinsic goodness is to be discovered in one Good only (as for Plato) or (as for Dr. Moore in *Principia Ethica*) in a multiplicity of goods. Our concern here is with the diversity of standards or ideals, and particularly with those of Rightness and Goodness. Each, as we have seen, is one and infinite in *suo genere*. Are the *genera* finally distinct? "Beauty is truth, truth beauty," wrote John Keats, and added, "that is all ye know on earth, and all ye need to know." We need in fact to know a great deal more. Certainly it is not "on earth" that these measures, as the poet claims, lose their differences in identity. It may be true that a man stabbed his paramour in Brazil yesterday, but the knowledge of the event, for all its truth, is neither beautiful nor good. Croce may have erred in demarcating too rigidly

[1] On this whole question see Sorley, *Moral Values of the Idea of God*, pp. 139 ff.; and A. E. Taylor, *The Faith of a Moralist*, vol i. ch. ii and *passim*.

the several activities—theoretical and practical, æsthetic and logical, economic and ethical—of the human spirit; but the differences on which he insists are very real. We may note, in passing, that it is incorrect, as Professor Taylor has recently pointed out, to speak of truth as a "value."[1] What has value is not truth, but the knowledge of it in the mind of a knowing subject. Our question, then, is whether knowledge of truth (and all *knowledge* is true knowledge), beauty, love, rightness, goodness, are, not indeed reducible to one another, but specific variations on a single ultimate standard. Four considerations may be urged as pointing to the possibility of such a synthesis.

(1) It is the nature of reason to seek unity in experience and not to rest till she has found it. That the unity is there for the seeking is the faith of metaphysic, its "substance of things hoped for," its "evidence of things not seen." Ideals claim to fall within the real, and a bare togetherness of external relationship would spell irrationality at the very heart of reality. Doubtless Pluralist philosophers —and such abound to-day—will disparage this *credendum*, and echo Dr. Moore's epigram, that "to search for unity and system at the expense of truth is not, I take it, the proper business of philosophy, however universally it may have been the practice of philosophers." This statement, however, begs the question; only on the assumption that truth is pluralistic is there any possibility of such a sacrifice. It also involves an *ignoratio elenchi*. In metaphysics an article of faith is not a dogma. It remains what Kant called a "regulative Idea," *i.e.* a lode-star of intellectual inquiry, awaiting confirmation by the facts.

(2) There is further a practical motive for seeking a single standard of value. Human lives fall into groups according as they are directed towards one or other ideal end. A man has to choose, within limits, the sort of life he means to live, and his choice will involve selection among measures of value. No man can pursue all forms of goodness equally or all at once. One will rate beauty above moral goodness, another moral goodness above knowledge, a third will subordinate all three to the glory of God. How can a man decide which form is the highest if he cannot measure all alike by a single sovereign principle?[2]

(3) We have seen that value attaches not to abstract concepts, but to concrete existents, possessed of life and mind. Now, personal life is displayed at various levels of development; and advance from a lower to a higher level is marked by increased unification, both of self-hood and of the object-world. In the case of finite personality this process of unification is never complete, either on the side of the subject or of the object. But analogy points to the ideal of a perfectly unified experience, in which the knower and the known reality alike display the form of coherent system in the richest

[1] Taylor, *The Faith of a Moralist*, vol. i. p. 39.

[2] See Sorley, *op. cit.*, pp. 52, 53.

variety of content. If the unification be all-inclusive, it should embrace standards of value as well as other constituents of the real.[1]

Lastly (4), if the claims of religion be admitted, the problem which remains undecided for metaphysic receives a definite solution. God, if God there be, is the source alike of all that has being and of all its value. Religion is an illusion, unless the object of its worship not only enjoys the possession of beauty, knowledge, and goodness, but Himself *is* these things, and is them in undivided unity. That God is not merely *bonus* but *bonitas* was a familiar tenet of the mediæval schools. In the unity of His being all measures of value find their unity, "beauty is truth, truth beauty," in God, and in God alone. Therefore rightness and goodness also fall together in the being of God. The moral Law is thus conceived, inadequately, but at the farthest bound of human thought striving to fathom the divine nature, as the expression of His eternal Will for Right. What God wills is the *really* Right, ever adumbrated in men's judgments of rightness, yet ever eluding their grasp (*Begriff*), a Right which is no arbitrary *fiat* of a capricious sovereign, but the perfect enactment of God's vision of His own Goodness. For the religious consciousness, this solution of the problem of diversity of ideals lies ready to hand. For metaphysics, however, it is otherwise. The assurances of religion are not demonstrable, nor can its "immediate experiences" of God be accepted by philosophy at their face-value Like all other claimants to immediacy, they must subject themselves to the scrutiny of speculative reason. On the other hand, since they proffer a solution of questions which ethics is bound to raise and to leave unanswered, they are claims of which any serious philosophy must take note. That is why they have been referred to here. But the inquiry into their validity is another story, which lies beyond the purview of these articles.

[1] See Taylor, *op. cit*, vol i pp. 101 ff.

(*Concluded*)

HYPNOTISM AND SUGGESTION[1]

WILLIAM BROWN, M.D., D.Sc.

In any consideration of the nature of suggestion we cannot omit reference to the extraordinary and startling phenomena which may sometimes be observed in hypnotized subjects. But it would be a mistake to look upon hypnosis as something uncanny, mysterious, and occult. Although we have even yet no thoroughly satisfactory theory of hypnosis, we understand it in general terms, and can bring it into line with other facts and phenomena of psychology known in everyday life. The hypnotic subject, and the phenomena of hypnosis, can be explained firstly in terms of mental dissociation, of the tendency for certain forms of psychical activity to occur independently of the rest of the mind, independently of other considerations; and, secondly, in terms of suggestion, of increased suggestibility. And these two, the phenomenon of dissociation and the phenomenon of suggestibility, are not unrelated to one another. They are related, but not to the extent of being identical with one another. It was the Nancy School of Hypnotism, led by Bernheim, who considered that hypnosis could be explained in terms of suggestibility. Charcot had previously explained hypnosis as an artificial hysteria—as a dissociation of the highest levels of the nervous system, a dissociation of mental and physiological activity at the higher conscious level. But the theory I am trying to sketch is the theory that combines both these statements. In my own view, based on the study of many hundreds of cases, hypnosis is explained both by dissociation and by increased suggestibility. We certainly do find increase of suggestibility occurring, partly explained in terms of dissociation, but not entirely so. On the other hand, the dissociation in its more pronounced forms may show itself independently of suggestibility. Which is the cause and which the effect of these two? Dissociation as a cause may bring with it increase of suggestibility. We can understand why that should be so. Does increased suggestibility on its side bring dissociation? It may tend to do so. A person who is in an increasingly suggestible state responds to just the one stimulus before him—it may be a stimulus from the outer world, or an idea aroused in his mind by the experimenter. He responds with his whole mind and strength to the

[1] Being part of a paper on "The Self: Psycho-Analysis and Psycho-Therapy," read before the Church Congress, Newport, Mon., on October 8, 1930.

suggestion, and that concentration in one direction may be considered to cause collateral suppression of other modes of mental activity, which may otherwise occur simultaneously or immediately afterwards. And that suppression of collateral mental activity may be regarded as a precursor or cause of a certain kind of dissociation. If a patient is so fixed on what the hypnotist is saying and suggesting that he is oblivious of everything else, it would not be surprising if later on, when his attention to the hypnotist is relaxed and the rest of his mind, the other powers of his mind, have sway once more, *the memories of events that occurred during hypnosis would* be absent. That is the tendency in deep hypnosis—for the person to forget completely the incidents of the hypnosis afterwards. In cases of artificial somnambulism, or what I call real hypnosis, the patient wakes up from sleep with no memory of what has occurred. We find that is the case in ordinary somnambulism. A person who walks in his sleep does not remember what has occurred when he wakes up. It must have been a dream that caused his somnambulism, but he is unable to remember it Cases like these are just the cases that are hypnotizable. One can be certain to be able to hypnotize a patient who is frequently walking in his sleep, and under hypnotism one can recall the dream he is living through, so that he then knows why he is walking in his sleep, and the result of the recalling of his dream and the reassociating of that part of his mind with the memories is to abolish the somnambulism. I have found many cases of people who walk in their sleep who can be cured in this particular way, not by hypnotic suggestion but by using the dissociation side. It is quite obviously a state of dissociation, yet it is hypnotism which is most effective in overcoming the earlier dissociation.

And that leads us to a still profounder view of the hypnotic state. Hitherto we have thought of the mind simply as a sort of cinematographic film, a continuous series of memories, and that in dissociation certain limited parts of that memory-continuum are dissociated, cut off, from the rest of the memory. A person suffering from so-called amnesia is hypnotizable, and under hypnotism that lost stretch of memory can be recalled. But when a person is in a hypnotic state he tends to be dissociated even if he was not dissociated before. Dissociation and hypnosis show themselves in the form I have already described. At the end of the hypnotic slumber the patient wakes up, having forgotten what occurred during the hypnosis. If we look at the hypnotic state from the point of view of the normal mind, of the patient in his normal, non-hypnotized state, we see it is dissociation. He looks back on the hypnotic slumber as something of which he remembers nothing. If, on the other hand, one considers the hypnosis from the point of view of a hypnotized patient at the

time he is hypnotized, and also from the point of view of the hypnotist, one sees it is more a state of reintegration, and indeed, more accurately still, it can be regarded as a reaching out towards deeper strata or levels of the mind. To hypnotize a patient is metaphorically almost like driving a shaft through various geological strata to reach underlying strata, and the reason why under hypnotism lost memories are recalled seems to be that the background of the mind that is not ordinarily clear consciousness, the mental activities that are not ordinarily presented to the consciousness of the individual, become conscious as the area of consciousness is widened; and it is because of that, and for that reason, that the lost memory returns. You find the hypnotized person tends to have automatically, quite apart from any suggestion you can give him, a better memory than the unhypnotized person in his normal state. In easily hypnotized patients, such as shell-shocked soldiers, whom I treated during the war, I found it possible to recall almost any specific memories one liked to choose. One could recall birthday memories. These are definite anniversaries, and can be independently tested, and I found that in quite a number of cases I could effect the recalling of memories of every birthday, right back to their first birthday. They would enumerate their birthday presents, what the weather was like on their birthday, and yet in their normal waking state they were quite unable to do this. There was greater accessibility, greater viability between one part of the mind and the other. The patient had greater powers of recall, greater control over his past memory. Besides that, one finds in the hypnotic state that not only does one's wish and decision and resolution and determination to recall memories prove more successful, not only are these processes more successful, but other mental processes produce more pronounced results. Thoughts of alterations in the body, not only as regards memories which are not recallable under ordinary conditions, the production of physical change in different parts of the body, are more easily brought about in the hypnotic state. One can produce rises of temperature—not only a feeling in special parts of the body, but actual physiological rises of temperature, no doubt through alteration in the blood-supply to that part of the body. It is the sympathetic nervous system in direct relationship with the bloodvessels that is stimulated more intensely in the hypnotic state than in the normal state. Of course we know that in the normal state, under special conditions, these parts of the nervous system can be thrown into a state of intense activity, but not at will. In hypnosis the hypnotist is able to bring about these changes in the hypnotized subject at will, and the subject himself can through self-hypnotism produce more effect than in the waking state. In the normal waking state will-power is related mainly to

the voluntary nervous system. The voluntary muscles can be moved at will, as their name implies. The involuntary muscles, the muscles of the intestinal tract and of the bloodvessels, etc, cannot be moved at will. But they can be moved and contract and change under the influence of emotion and other forms of feeling. In the state of hypnosis the hypnotist can call out more pronounced changes in the involuntary muscular system by arousing in the patient the idea of such a change. Arousing the idea of increased blood-supply, or increased heart-rate, in the hypnotized subject seems to be sufficient to produce the result. And a further step is taken when the subject himself, with a little practice, learns to throw himself into the hypnotic state, and in that state becomes able to influence his own bodily functions. There is no doubt whatever about the facts. They are now almost a commonplace, admitted by everyone, although very seldom seen by people. It is only those who devote special attention to hypnotism, and who are able to see large numbers of such cases, who can verify it for themselves.

Examples of Self-Hypnotism

As regards self-hypnotism, there were two demonstrations given to privately invited audiences in London in 1926, a day or two before the General Strike. Two fakirs of Egypt, Rahman Bey and Tara Bey, came over and demonstrated their powers on the platform I was fortunate enough to be able to see both these cases from the stage itself. They were very similar to one another, they produced the same phenomena, which could be explained for the most part in terms of hypnosis. Tara Bey would hypnotize himself, and had his own especial method of doing it. He put his hands to the sides of his face, put his two thumbs over the carotid artery and special nerves of the neck, took a deep breath, you heard a sound in his throat as though he was swallowing his tongue, and he fell back rigid in the arms of his assistant, and in that rigid condition was anæsthetic, and could retain his rigidity. He was laid upon two scythe-shaped supports, one supporting his feet and the other his neck, and stretched like that could resist the blows of a heavy hammer. Then he was lifted off, and ceased to be rigid in the upright state, but retained his anæsthesia, so that pins and knitting-needles could be thrust through his cheeks. He took a knife and thrust it through the skin of his throat. Another test which he fulfilled was to lie flat on his back on a board full of spikes. There were hundreds of spikes driven into the board close together and fairly sharp, and he lay on these spikes and again allowed the attendant to hammer his abdomen. He then got up, showing the marks in his back where the spikes had pressed on the skin, but

only in a few points had there been penetration of the skin, and practically no bleeding. That test seemed more striking than it really was because the larger the number of spikes the less is the pressure on each single spike. The more terrible-looking the contraption the less severe it was. Then he put himself into a condition where he claimed to abolish the pulse and respiration. Actually that did not occur. Testing him, one noticed that the breathing was going on, and one could feel the pulse at the wrist, at a high rate (though feeble), 150 or 160, the normal rate being 72. In this condition of catalepsy Tara Bey allowed himself to be put into a coffin-shaped box, sand thrown over him, and the box fastened down, with sand heaped over it, and he was ready to remain in that box as long as the audience wished. As he knew the audience were not likely to wait a long time doing nothing, ten minutes was suggested, and he remained ten minutes, while his impresario gave the audience a sketch of his general philosophy of life. At the end of the ten minutes the sand was scraped away, the box was opened and put up vertically in sight of the audience, and just as the ten minutes came to an end he began to breathe more deeply and the colour came back to his face. He looked absolutely cataleptic and livid, but as he began to breathe more deeply his colour returned, and he stepped out of the box in a normal state once again. He claimed that he could do it for a much longer time. He claimed that some fakirs had been buried for days; indeed, there is a story that one in past centuries was buried for twenty years. As far as one can make out there is no evidence of that. The question arises: Does the individual while being buried in that state grow old? and the answer is that he grows old faster than if he lived the ordinary life. One would think that in a state of hibernation one could lengthen one's life, but instead of lengthening life it tends to shorten it. That is what the fakirs themselves say. These phenomena I have described illustrate the effects of self-hypnotism, the influence of mind on body. They show how the power of the mind over the body is increased and intensified in the condition of self-hypnosis. The respiration can be slowed, the pulse rate can be altered, the tendency to bleed can be diminished; but it is well not to be carried away by these phenomena, and not to be too credulous about them.

One should note that the parts of the skin that are tested in this way are parts that have a good blood-supply, but also are not supplied with any large arterial trunk. The cheek has a good supply, that is why it heals up so quickly. Wounds on the face heal up very quickly because the blood-supply is very good, but there are no big arterial trunks there. The same with the shoulder. The fakir took care to choose the parts of the shoulder where there was no big arterial trunk. As for the back, it is well known that

the back is less sensitive than other parts of the body. The question arises whether in the hypnotic state other powers are increased. It has been claimed ever since the hypnotic state was known that the hypnotized person may have powers of clairvoyance and powers of telepathy. In the hypnotic state a person may be able to see events that occur at a distance or may become aware of thoughts in other people's minds. The case of Tara Bey may be taken to illustrate this. Tara Bey brought with him a hypnotic subject—an Armenian—whom he hypnotized and then used as a medium for the reception of telepathic messages. Tara Bey himself acted in the same way, carried out thought-reading experiments, which he himself claimed to be done by means of telepathy. He claimed also that in this state, and even in the waking state, he could foretell the future—give answers to questions referring to the future—and certainly one interesting thing did occur. A gentleman came up on the platform and silently asked a question of Tara Bey's subject, and Tara Bey, standing by, supposed to get the reply through the subject by telepathy, called out to the audience what the subject was saying. He seemed to be saying "Coronet." The gentleman had asked the question what would win the Derby, and had in his mind the possibility of the favourite, Coronach, winning it.[1] If there was no collusion, an incident like that is either a remarkable coincidence or a clear illustration of the fact of telepathy. As far as one can make out, it was not known beforehand that the man would come up on the platform and ask that question. He had a definite standing as a responsible person, and, on the other hand, the impression we got was that Tara Bey himself did not even understand the significance of the answer, and certainly the hypnotized subject did not know English to any extent.

That brings me to the question of telepathy in relation to hypnosis. There are people who believe in telepathy, and yet hold that there is no clear evidence that the hypnotic state increases its frequency. That was not my own experience. I tested a number of hypnotized patients in France, and got definite examples of what seemed to be telepathy, whereas testing normal people under experimental conditions gave one little or no evidence of it. I am inclined to think (speaking now scientifically) that telepathy does occur more frequently in hypnotic cases. One is more likely to get phenomena that seem to illustrate telepathy from hypnotized patients than from unhypnotized patients. It may be due simply to the fact that the hypnotized patient has greater sensory powers than the non-hypnotized individual, and that in that way he can subconsciously guess what is going on, and can put two and two together, or draw inferences. We are not yet fully informed of the conditions under

[1] Coronach did actually win the Derby that year.

which telepathy may take place. One such condition may be a state of hypnosis increasing the frequency of telepathy, but even there we cannot be sure of telepathic results. Secondly, we cannot be sure that it is not in terms of association processes. The clearest example I myself have had of apparent telepathy came from visits to Mrs. Leonard, the well-known medium, and here she does seem to be throwing herself into a state of self-hypnosis before 'Feda' (her 'control') begins to talk and describe what the spirits are saying. Quite a good proportion of the talk does seem to correspond to interests and facts in the sitter's mind, of which he is not consciously aware. Under conditions of sitting to a medium, it is not one's conscious thoughts that influence the medium or are given back to one from the medium. It is what is in one's unconscious mind—what one is not consciously thinking of at the time.[1]

Our central problem is the problem of suggestion, and I have only spoken of hypnosis as a stepping-stone or stage in the story of suggestion. I do not wish to give the impression that hypnotism is a method that is frequently used by psychotherapists; it is only in very special cases that hypnotism is used, and never without the consent of the patient. Indeed, the patient cannot be hypnotized against his will. The trouble is the other way. So many patients come and ask to be hypnotized, and they cannot be hypnotized. With the best will in the world the hypnotic state cannot be produced in them. Indeed, the doctor knows almost at once whether the patient is likely to be a good hypnotic subject or not. Patients who are easily hypnotized are clearly those who are dissociated and are hysterical. And further, the degree of dissociation seems to be related with the degree of hypnotizability. So, arguing from that generalization, one comes to the conclusion that the perfectly normal person would not be hypnotizable, and that anyone is hypnotizable only to the extent to which this hysterical dissociation is present. That does not mean that all weak-minded people are hypnotizable. Far from it. The hysterical is not necessarily weak-minded, nor are mental defectives as a rule hypnotizable. There are exceptions. You can find instances where a feeble-minded person who has a strain of hysteria can be hypnotized, but you would be wrong to generalize from that. Hence the theory that hypnosis is an artificial hysteria is the most plausible theory at the present time—that hypnosis is an artificially produced dissociation of a hysterical nature. As the patient gets free of his dissociation he becomes less and less hypnotizable. If hypnotism is used to overcome a patient's dissociation, you will find on a later occasion that he is not so easily hypnotizable. And—here I agree with Professor Pierre Janet—the test of his cure is the extent to which he has

[1] *Science and Personality*, Oxford University Press, 1929, pp. 196–219.

ceased to become hypnotizable. This test was verified by me in a whole series of cases during the war, cases who were found to be easily hypnotizable; the symptoms were cleared up under hypnosis; one reassociated the patients, and then found them less hypnotizable than before The sort of cases where repeated hypnotism is justified are cases of drug addiction, alcoholism, and certain perversions of the instincts.

Suggestion without Hypnosis

In most cases the ideal is to get the beneficial effects of suggestion without hypnosis, to get the patient into a state of increased suggestibility without any artificial dissociation of the mind And that undoubtedly can be done. There is such a thing as a normal state of increased suggestibility. It is a state we all pass through as we fall asleep In that intermediate state whatever dissociation there is is normal, not pathological, and in that state suggestion may more readily take effect The stock example is to give the suggestion to oneself that one will wake up at a definite time next morning. If you give that suggestion during the course of the day it may not work; but if you wait till night and make the suggestion to yourself in a calm, confident way, you will find it does tend to work. If you are new to the experiment, you may find your sleep tends to be broken, and you will wake up earlier than the time fixed upon. In medical practice the simplest way to give suggestion is to ask the patient to lie on a couch with muscles relaxed, breathing slowly, deeply, and regularly, thinking of sleep and nothing but sleep, and then to put the necessary suggestions. If the patient has difficulty in concentrating his mind on sleep, I tell him to think about something neutral, something of an unemotional nature. Or again, if he says he cannot think of one definite thing, I ask him to turn passively away from thoughts as they come, just as a person who found a procession passing his window in which he took no interest would turn his eyes away from it. The patient is dwelling on the idea of passivity, not worrying about anything or anybody. He does not listen to what the doctor says, although he hears. And in that state, which Baudouin calls a state of *contention* —concentration without effort—the background of his mind is accessible to what is said and will accept it and carry it out. It is remarkable what effects may be obtained in special cases—not only in cases of illness. One was the case of a musician, who had lost power of concentration and all power to compose. He came for treatment, and under the influence of suggestion (after a preliminary course of analysis) he recovered his power to compose. He fell away again, and came a second time, and it worked in just the same way. After a course of ten hours he was able to compose once more,

and has had no difficulty whatever since. The method is one way of removing unnecessary inhibitions. At the other end of the scale it works in improving memory and power of concentration, and may help a certain type of child who is backward in its lessons.

All forms of suggestion-effects, both pathogenic and therapeutic, have their ultimate explanation in deep-seated reactions of the sub-conscious and unconscious mind, often both complex and distorted. An adequate unravelling of these hidden mental processes may entail a prolonged course of *deep mental analysis*, helped out by methods of "free association," dream interpretation, and other procedures first invented by Sigmund Freud, and constituting part of his technique of psycho-analysis. But permanent therapeutic effects may often be obtained by suggestion independently of deep analysis, although a certain amount of preliminary psychological analysis is always desirable.

PHILOSOPHICAL SURVEY

PHILOSOPHY IN ITALY

A PINCHERLE has celebrated the centenary of Augustine, Bishop of Hippo, by dedicating to him a book[1] which has been a long time in preparation. It shows an excellent knowledge of the sources and literature, although it is presented bare of erudite embellishments and is directed towards an unspecialized public It differs from the biographies of Augustine which have been and still are in circulation in Italy, and which, dividing his life into two parts, before and after the conversion, delight to represent him in the first period as a semi-devil and in the second as a sanctified convert. That a superficial and non-critical reading of the *Confessions* might inspire such a conventional picture is plausible, but the *Confessions* do not form Augustine's only book, and by themselves do not explain how it is that, instead of retiring to mortify himself in the desert after his conversion, Augustine continued, or rather intensified his literary activity, which shows no real separation from his earlier work

All that has since been made over to historical criticism, and from the first page of his book Pincherle opportunely points out that from 1888 onwards Harnack and Boissier have advanced to a critical examination of Augustine's own account of his conversion, comparing it with his dialogues written at Cassiciacum in the period immediately preceding his baptism. They have shown that while the *Confessions* present to us a penitent, a convert who laments over the past, dedicating the greater part of his time to the reading of the Psalms, the later ones show us an Augustine still full of interest in philosophical and literary problems, a reader of Virgil, an enthusiastic admirer of Cicero, a vigilant administrator of the charities of his host.

Thus Augustine's spiritual crisis takes on quite a different character. When we treat of a conspicuously intellectual figure, it is not difficult to persuade ourselves that the forces there in conflict are for the most part forces of thought, and that the actual moral differences manifest themselves in the shock of adverse ethical conceptions. The design of Pincherle's work develops in accordance with this safe guide He interprets Augustine's youthful Manicheism in the sense that the Manichean doctrine furnished him with an explanation of that duplicity of impulses and tendencies which he felt struggling within him, it explained to him the origin of evil, and helped him to resolve entirely that moral problem which was the only one that truly interested him. Manicheism drew him not so much as religion but as philosophy Pincherle reduces the importance of the succeeding academic and sceptical phase as being merely transitional, and gives an analogous explanation of it, calling it a last attempt to interpret philosophically his Manicheism, and to save it by motives learnt from Cicero. Having embarked on this excellent route, Pincherle should have given greater prominence to Augustine's philosophical victory over Manicheism, won by the doctrine of the negativity of evil, which conquered the dualism of the Manichean powers But here it seems to me that Pincherle has allowed

[1] A PINCHERLE, *Sant' Agostino d'Ippona*, Bari, Laterza, 1930 (8°, pp. 306).

himself to be interrupted by his preoccupation in saving the unity and continuity of Augustine's thought, in view of the last anti-Pelagian phase of his doctrine. In other words, he does not point out sufficiently, or feel the need for giving an adequate explanation of, the separation between the doctrine of the negativity of evil and of the liberty of the will on the one hand, formulated during the period anterior to the Donatistic and Pelagian conflicts, and on the other hand the doctrines of predestination, of the servant will and of grace, which belong to this latter time, and which reflect in some way the posthumous influences of disavowed Manicheism. Now the point which it was necessary to clear is, to my mind, this if and in what measure the confessional and theological preoccupations, which inspired Augustine to insist on the solidarity of men in the sin of Adam and in their own incapacity to raise themselves by the forces of their own will, superimposed themselves on the exigencies of his philosophic thought, which carried him to recognize the liberty of will and the non-existence of evil as a positive reality.

Another fault in Pincherle's book lies in his having given a value not only predominant (that would have been acceptable), but also an exclusive value to the moral problems treated of by Augustine. What about the logic, and the cosmology, and the psychology—in that part at least which concerns the different aspects of morality? You may look in vain for one single indication of them in the whole volume. Yet the doctrine of divine illumination, of the seminal reasons and the trinitarian interpretations of the human spirit merited a profound examination, especially in view of the enormous importance which they had throughout medieval philosophy. With nothing more than the problems of will, of grace, and of predestination, it is possible to explain, for example, the Augustine of the Reformation, but certainly not the scholastic Augustinianism whose orientation is speculative rather than ethical. These observations, however, are not meant to diminish the importance of Pincherle's book, which is by far the best that there is to-day in Italy on Augustine, and which, in not a few points, especially in the analysis of the City of God, gains the full approbation of the reader.

In a notably interesting book A. Banfi[1] relates the life of Galileo Galilei, interweaving with it the genetic exposition of the scientific and philosophical Galilean doctrines. Banfi, who did not specialize in research in the natural sciences, but was a student of philosophy, has given predominance to the methodological aspect of the thought of Galileo, which is without doubt the most important, because what distinguishes the science of the Tuscan mathematician from the science of his contemporaries is not so much the sum of the new results achieved (which alone is great enough) as the fertility of the new mental procedure from which the whole of modern science is derived. However, it would have been more desirable had the author given us a broader exemplification of that fertility, in order to show that, in Galileo, the method is born together with a new content of thought, and is not, as it is for example in Bacon, a rather abstract hypostasis, which explains his incomparably greater efficacy.

The best parts of the book are those in which the author describes the changes in Galileo's life. Up to the period of the Paduan teaching Banfi was guided by the old volume of Favaro; but later on, where the research assumes a more personal character, the interest of the reader does not languish. The author has notable powers for evocatory and reconstructive work; he never assumes the unsupportable tone of the panegyrist. Indeed, he lays no little

[1] A. Banfi, *Vita di Galileo Galilei*, Milano-Roma, 1939, Soc. Editrice "La Cultura" (8°, pp. 273).

censure on the moral and civic qualities of his hero Outside the world of science, in which he moves with sovereign gesture, Galileo the man is mediocre niggardly and self-interested in economic relations, dry and cynical in family life, weak in adversity His attitude during the trial does not reveal any note of high humanity or disdainful pride he cedes on all points to the Inquisitorial injunctions, and follows his prudential submission up to the point of condemning, even in private letters, that Copernicanism which had made his glory He did so to such an extent that in his relations with the Inquisition he had the irrefutable alibi that his *Dialogo dei Massimi Sistemi* had been published in consequence of regular ecclesiastical approbation. But Inquisitorial perfidy, as Banfi illustrates so clearly, revealed itself in the cunning power (to which, it must needs be added, Galileo's acquiescence alone could assure success) to surmount this obstacle, charging him not so much with having published the book as with having violated a previous undertaking, contracted in writing before Cardinal Bellarmine Now this undertaking (not to support Copernicanism after the condemnation of 1616), *at least in the absolute form with which he had been charged, was only a* falsification of the Curia, contradicted by the same declaration of Bellarmine. Yet, after having tried to excuse himself for it, he attributed to himself in his abjuration this crime as well, which gave the legal pretext for his condemnation

To penetrate the secret of Hegel is a problem which has always tempted the historians of philosophy. Formerly the best way to attack it seemed to be to delve in the formulas of the Logic or of the Phenomenology, to seek there the key to the mystery To-day it is preferable to follow another route to study the genesis of these formulas by investigating the spiritual formation of Hegel, examining in particular the philosopher's youthful productions After the great work of Dilthey, lately republished in the complete edition of the works of the German historian, many kindred writings have seen the light, which in part confirm and in part modify Dilthey's theses, as a basis for new documents which have appeared during these last years, particularly Hegel's youthful writings on theology, printed by Nohl in 1907, which had previously for the most part been preserved as *manuscripts* in the National Library of Berlin A recent book by DELLA VOLPE[1] follows the first steps of Hegel's literary activity from 1793 to 1800, and seeks to trace in them the first orientations of the future system Della Volpe's principal thesis is that Hegel began as an illuminist, to be converted soon after to a mystical romantic trend, especially under the influence of Schiller's *Æsthetic Letters*, the philosophical poetry of his friend and co-disciple Hölderlin, and the reading of the works of Meister Eckhart Illuministic and Kantian motives are to be found in one of the very first writings of Hegel, in a Life of Jesus, which centres in "the dramatic struggle between the rational religion of Jesus, religion of the spiritual life within, understood in the Kantian sense as law and duty, and the church religion, external, ceremonial, of the Pharisees" (p. 42). Between this little work, composed at the age of twenty-four, and the *Spirit of Christianity*, produced in 1798–99, few years elapse, but they are decisive years for the spiritual formation of the philosopher. To the Kantian orientation succeeds a powerful hostility against the ethics of Kant, dividing the spirit into two parts, which cannot be absorbed the one with the other, "while the morality of Christ is the true morality, the elevation of the particular to the universal, the annulment of both the opposites through their harmonious union, very different

[1] G DELLA VOLPE, *Hegel romantico e mistico*, Firenze, Le Monnier, 1929 (8°, pp 224)

from the abstract intellectual unity of Kant" (p. 136). In this sketch of Christian metaphysics of love, which is naturally founded on the Fourth Gospel and on the mystic tradition which completes it, we find the first indications not only of a dialectic mediation of the opposites through an activity more elevated than that of the intellect, but also of a phenomenological exposition of the life of the spirit. We should note also—and the author gives it a timely importance—the depth of the youthful Hegel's historical intuition, which detaches itself from the background of the illuministic mentality of 1700 in search of positive and constructive explanations of what Illuminism too easily confined among prejudices and superstitions: "When it has also been explained with the usual method of intellectual analysis"—says Hegel—"that the internal structure of dogmatics is a remnant of centuries of twilight, inacceptable in the times of the illuminati, it is nevertheless human to ask oneself how it can be explained that such a structure contrary to human reason has been able to grow up and be completed." These words, observes Della Volpe with Dilthey, express the state of mind common to different pioneers of the art of history. Della Volpe separates himself from the preceding literature on Hegel's youthful writings, which he usually follows, in so far as it tends to undervalue the influences of Fichte and Schelling, in comparison with Hölderlin and Eckhart, on the formation of Hegel's mind.

Della Volpe has also published an elaborate monograph on the mysticism of Meister Eckhart.[1] In a long introduction he sets out a historical excursus on the principal philosophical formulations of the mysticism of the Ancients and of the Middle Ages, proceeding from the neo-Platonic school, through Augustine and pseudo-Dionysius the Areopagite, as far as the school of St. Victor and the Franciscan mysticism of the thirteenth century. This introduction aims partly at linking up Eckhart with his predecessors, partly at distinguishing him from them, showing that the traditional negative theology seeks to save divine transcendence through the concept that between God and man there is nothing in common, while the theology of Eckhart, "far from accentuating the transcendence, confirms openly the divine immanence," and expresses the "absorption, the identification of God in His creature" (pp. 195–6). This conclusion is perhaps too restricted; generally it is vain to ask mystics for rigorous solutions of philosophical problems, because they often follow a disconcerting line in their effusions. Anyhow, this thesis of Della Volpe, with convenient limitations, represents a useful reaction to certain recent interpretations of Eckhart which tend to make him an exponent of medieval thought closer to orthodoxy. The documentation of the book is founded on the treatises and sermons in German and on the Latin writings published by Denifle. Della Volpe shows their complete consistency with one another; if the first have a more mystic intonation, and the others a more theological one, this difference is explained, not by a substantial diversity of inspiration, but simply by the exigencies of the occasions on which they were delivered, the first being directed towards a common public of the faithful, the others to a restricted circle of the learned. Della Volpe's book abounds in long extracts of Eckhart's writings in Latin and German, which prove very useful to the reader who has not the opportunity to consult the works in full.

GUIDO DE RUGGIERO.

[1] G. DELLA VOLPE, *Il misticismo speculativo di Maestro Eckhart nei suoi rapporti storici*, Bologna, Cappelli, 1930 (8°, pp. 286).

(*Translated from the Italian by* CONSTANCE M. ALLEN)

PHILOSOPHY IN RUSSIA

MARXIST philosophers in Soviet Russia make a great deal of the distinction between 'dialectical' and 'mechanistic' materialism, but in spite of all that has been written about it by Lenin and others, the difference between these two theories is none too obvious to an outsider, and one is glad to have fresh light on the subject B Byhovsky's book, recently published in Moscow, *The Philosophy of Dialectic Materialism* (*Ocherk philosophii dialecticheskago materialisma*), is quite a good exposition of the doctrine in question, but it also leaves one wondering if there is much to choose between his version and the more old-fashioned presentations of the materialistic view Following Holbach, Lenin, and Plehanov, Byhovsky defines matter from the epistomological point of view as that which affects our sense-organs and produces sensations in us From the point of view of physics no definition of matter *per genus et differentiam* can be given because 'matter is all that exists,' and cannot be subsumed under any more general notion All there is in the universe is matter and its manifestations Consciousness, too, is a manifestation of matter it is the function of entities organized in a certain way Byhovsky does not say, however, that consciousness is *caused* by material processes, he definitely asserts that "material changes produce nothing but material changes," and that "existence and consciousness are not two distinct essences, but are a unity of matter and its qualities." "Subjectivity is an aspect or feature of the objective reality." At the same time Byhovsky emphatically maintains that consciousness is not an original but a derivative characteristic of matter, and is the product of a high degree of evolution. The contradiction between these two sets of assertions does not seem to trouble him There is, he says, all the difference in the world between the dialectical materialism he is expounding and the mechanistic materialism of Hobbes, Holbach, and others. For the mechanistic materialism movement means merely a change of place, sensible qualities are merely subjective, the complex is reducible to the simple: matter is a combination of homogeneous elements, the highly complex forms of movement such as social or physiological changes are explained by mechanical laws, and so on. For the dialectical materialism, however, movement means every kind of change—qualitative as well as change in spatial position; qualities are 'objective specifications', matter contains qualitative distinctions, and although the higher forms of life are produced by the lower, the new syntheses that spring up in the course of evolution give rise to new physical laws that cannot be reduced to a mere combination of those that hold at the more elementary levels Everything is subject to the laws of mechanics, but not to its laws alone Dialectic materialism interprets movement as the development of an A into a non-A, qualitatively distinct from and even opposed to it; the original A, however, is not destroyed but enters into the non-A as its constituent element. Thus, *e g* , "the destruction of capitalism implies the assimilation of its technical and cultural achievements." Every existing thing is a unity of opposites, and every change is 'an embodied contradiction,' a conflict of warring forces giving rise to a new quality that contains fresh contradictions in its turn.

It is probably these vague echoes of the Hegelian philosophy that lead some of the younger thinkers from dialectical materialism to the study of Hegel, and, as was mentioned in the last Survey, to conclusions that rightly seem alarming to orthodox Marxists. But there must be great confusion of thought among the red philosophers, for they keep accusing one another of 'idealism,' when, quite obviously, no trace of that heresy can be detected in their writings. The recent victim of this accusation is, of all people, the red acade-

mician, Deborin, who has furiously attacked idealism all his life, has modelled his own philosophy entirely on that of Lenin, and is one of the dullest and most complacent adherents of dialectical materialism that ever was! Deborin's official position is so secure that one can afford to laugh at his discomfiture in being classed with his sworn enemies, but it is no joke to be recognized as an idealist if one is not a *persona grata* with the Soviet Government. Bad news has been received of the one real philosopher that Soviet Russia can boast of—Losev, author of the *Philosophy of Name, Ancient Cosmos and Modern Science*, etc He had the courage openly to defend a system of thought that is essentially spiritualistic, and the result is that his books—obstruse and profound metaphysical treatises—have been pronounced 'counter-revolutionary,' and he has been exiled to northern Siberia.

Several works of philosophical interest have been published by the Russian *emigrés*. One that particularly deserves mention is *The Structure of Life*, a little book by K. Starynkevitch, a Russian botanist who died in 1926 in Paris It has just been printed in Prague, with a preface by Professor Lossky. Starynkevitch maintains that all organic life presupposes a special kind of interconnectedness between the component parts of an organism, in virtue of which each part *knows*, as it were, what the whole *wants*. He is careful to say that the expressions 'knows' and 'wants' are of course mere metaphors, for the faculties of knowing and willing arise at a late stage in the process of evolution, but they can only develop on the basis of a pre-conscious or 'primordial' intuition. It is this pre-conscious intuition that makes possible the purposive co-ordination between living cells, manifesting itself in the processes of growth, reproduction, readjustment to environment, etc., that are characteristic of all living organisms. This co-ordination exists not only in individual organisms such as a particular plant or the human body, but also in the case of groups or colonies of organisms such as a forest, a marsh, etc. A forest is more than the sum of individual trees that compose it: it is a living whole, reacting in a certain way to its environment, holding its own against the encroachments of the marsh-land or the steppes, and so on. Carrying this line of thought farther, Starynkevitch comes to the conclusion that all biological processes on our planet are interdependent, and form part of one living whole, which may as such be capable of reproduction. Following S. Arrenius's theory of panspermy according to which micro-organisms can be carried by the rays of light from one heavenly body to another, Starynkevitch works out the conception of 'planetary heredity.' The varied examples he gives of interdependence between the different forms of life make his little book fascinating reading. It is for specialists to say whether the facts admit of any other explanation than that offered by him; the philosophical interest of the book lies in his applying the conception of pre-conscious intuition, which some thinkers consider to be the necessary presupposition of cognition, to the processes of organic life as a whole.

The idea of organic unity so deeply characteristic of Russian thought is to be found in another form in Professor N. Alexeyev's *Theory of the State*. He understands by the State a social individual entity, the constituent elements of which are territory, population, a government, and an orderly way of life Such an entity is an organic whole, a multi-human personality. It differs from a single human personality by not having a single centre of reference, but existing merely in and through particular individual minds. In so far as the State is composed of human personalities endowed with spiritual life, it is not only an organic process, but also something supra-organic. Political organization presupposes the existence of a leading social class, the authority of which is based upon its being regarded as in some sense superior to other

classes. Modern democracy is an attempt to build up a State without a leading class, and is therefore bound to end in failure; only those States will survive that can succeed in training a leading class bound together by common beliefs and aspirations A State with such a leading class would be an 'idiocracy,' and the best State will be one whose leading class is inspired by the true conception of the meaning of the world as a whole The author's fear and distrust of democracy is typical of the Russian *emigrés* psychology, and so is his hopelessly theoretical way of handling the problems of political life

A very interesting little book by B. Vysheslavtsev has been published by the Y M C A Press in Paris, *The Heart in Christian and Indian Mysticism* By the 'heart' Vysheslavtsev means not only our emotional nature, but the ontological super-rational principle in which our true selfhood consists That principle is the source both of good and of evil, for the essence of selfhood is freedom It is both spiritual and physical, for it transcends the distinction between soul and body In the course of the discussion Vysheslavtsev raises many important problems, and whether one agrees with his solution of them or no, one cannot help enjoying the clear and original way in which he presents the subject.

Father Sergey Bulgakov's book on *Ikons and Ikon-Worship*, just out of the press, is primarily theological, but has considerable philosophical interest. Starting with a consideration of the historical arguments for and against ikon-worship, Bulgakov passes to the general question in what sense, if any, can there be pictorial representation of God His answer is bound up with his general theory of the relation between God and the world, and, roughly stated, consists in saying that all creation, and man especially, is in its eternal essence a living ikon of the Deity. The world is made in God's image, and a reflection of some aspect of Godhead may be caught in a work of art In painting an ikon of Christ the artist represents not only Christ's physical body, but also His divinity, in so far as the body is a symbol or image of the spirit.

An excellent book on modern German thought has been written in French by a Russian philosopher, G Gurvitch · *Les tendences actuelles de la Philosophie allemande. G. Husserl, M. Scheler, E. Lask, N Hartmann M. Heidegger.* (Paris, Librairie philosophique Vrin. 1930) Gurvitch's knowledge of German philosophy is very thorough, and his book on Fichte's ethics (written in German) is said to be a fine piece of work.

Another young Russian philosopher who writes in French, Alexandre Koyré, has brought out a book that is of great value to those who are interested in the history of Russian thought · *La philosophie et le problème national en Russie au début du XIX^e siècle* (Paris, Librairie ancienne Honoré Champion)

The first number of *Der Russische Gedanke* for 1931 contains articles by Lapshin, A. Weidemann, Yakovenko, Zenkovsky, Karsavin, and others, three reports of the Oxford Congress of Philosophy, some portraits, and many reviews It is a very interesting number, most of the articles are concerned with philosophical subjects, but some deal with Russian literature and history, three are not by Russian authors, but by foreigners interested in Russian thought It is worth while to say a few words about Professor Lapshin's and Zenkovsky's articles. Lapshin in his *Von der Ueberwindung des Solipsismus* argues that Kantian transcendentalism, of which he is an exponent, need not lead to solipsism, for unperceived events and other selves may be regarded as objects of *possible* experience; the assertion that all objects as cognized by me are my ideas should be interpreted in the light of the distinction between the psycho-physical and the epistemological self Zenkovsky in his article *Die Philosophie der religiösen Erfahrung* sketches out his conception of religious experience By 'experience' he means a content of consciousness that has a

given character, is conditioned by the interaction between subject and object, and has objective reference. Criticizing the attempts made by Durkheim, Freud, and others to explain religious experience as derivative, he points out that the experiences from which it is supposed to be derived (*e.g.* social relations) already contain the religious element. One is driven to the conclusion that there are to be found in our consciousness religious data which are *sui generis*, and can only be explained by the interaction between the knowing subject and a trans-subjective principle. That principle reveals itself in mystical experience as an all-embracing whole, and consequently many religious people are inclined to interpret it in the spirit of pantheism. This, however, is not the only deliverance of religious consciousness: in many cases it is supplemented by an experience of communion with the supreme principle recognized as a personal or a super-personal being, revealing Itself to us through the Word. The fact that there are many revelations, and that to some extent they contradict one another, does not prove that revelation as such is merely subjective, any more than hallucinations and illusions prove all perception to be false. Zenkovsky solves the contradiction between the pantheistic and the theistic deliverances of consciousness by pointing out that in the pantheistic experience the vision of the divine aspect of the created world is mistaken for the vision of the Deity Itself.

Zenkovsky has something more to say with regard to pantheism in a long article in *Put*, in which he expounds his conception of the relation between God and the world and defends the idea of creation versus 'emanation.' Another interesting article in the same journal is G. Florovsky's spirited attack on German idealism, in which he detects pantheistic tendencies. It is not altogether clear what these authors mean by 'pantheism,' but it evidently is like a red rag to a bull to them! They both write brilliantly, but their arguments would be more convincing if they did not take it for granted that 'pantheistic tendencies' are essentially reprehensible. There is a very good article by Vysheslavtsev, in which he applies the psycho-analytical conception of sublimation to the problems of moral life, and an excellent one by S. Frank on *Psycho-analysis as a Philosophy*.

A new book by Professor Lossky, *Values and Existence*, has just been published in Paris, too late for giving an account of it in the present Survey.

NATALIE DUDDINGTON.

NEW BOOKS

The Faith of a Moralist: Gifford Lectures delivered in the University of St Andrews, 1926–1928. By A. E Taylor. Series I, "The Theological Implications of Morality," pp xx + 437. Series II "Natural Theology and the Positive Religions," pp xxii + 437. (London Macmillan and Co. 1930. In Two Volumes, 15s each)

Professor Taylor's Gifford Lectures present the moral argument to Theism in a new and original form The purport of the First Series is to show how the moral life of man furnishes an approach not merely to the God of Natural Theology, but to the God of Revelation. It bears witness "to three great strictly *supernatural* or *other-world* realities—God, grace, eternal life." In the Second Series this admission of the supernatural is developed further to the conclusion that the "revelational, historical, authoritarian, and institutional elements" present in all the higher religious faiths are no "irrelevant trappings, but themselves an integral and indispensable factor in a living religion" (II. 11–12)—and, we may add, in a living morality. Professor Taylor asks the following questions (*a*) Is the moral end, the good for man, to be found in the satisfaction of merely temporal interests, or does it imply an other-worldly goal of aspiration, that is at once eternal and real? If so, what is this super-temporal good, and what is its bearing on our actual life and its obligations? (*b*) Can the good be attained by man's unaided effort, or is "an antecedent outgoing movement" on the part of the *res infinita et æterna*, in other words, the grace of God, a presupposition of the moral life? The answer to these questions shows that Ethics, while possessed of a relative autonomy, points beyond itself to a theology, which, since it embraces the belief in God's initiative of self-disclosure, passes the limits of Pure Reason.

This is a high argument, worthy of a distinguished philosopher, and not to be essayed by any but one who knows religion from within. Professor Taylor brings to his task the courage born of a great sincerity He is well aware that his conclusions do not admit of logical demonstration. The appeal is to reason, not in its restricted sense of logical ratiocination, but as inclusive of a reasonable faith. His contention is just that reason demands from the philosopher the recognition of contingency, *i.e.* of what defies 'rationalization,' in the dealings of God with man. He is studiously careful to preserve an impartial balance between the claims of Christianity and other faiths. Yet his interest in his theme is not merely theoretical He writes as a fervent believer in the Christian revelation, who is deeply sensible of the danger to morality as well as to religion from the growing laicization of our public education. Secularism is the enemy. Hence, in the more controversial sections of the lectures, he concentrates on the refutation of Naturalism rather than of other types of non-religious ethical theory. His eye is fixed from first to last upon his Gifford audience, members of the cultured public who are not professed philosophers. This is all to the good; for philosophy is still too prone to linger on its academic pinnacle. At the same time, it explains certain imperfections in the author's presentation of his subject, *e.g.* diffuseness in exposition and a tendency to repetition of earlier statements, which, while legitimate in a lecture, impair the impressiveness of a book when read. We cannot but regret that, as he tells us in the Preface, he refrained from recasting

the lectures "in a severer literary form." But this is of secondary moment, compared with the originality and daring of Professor Taylor's design and the fine quality of his achievement.

The basis on which Professor Taylor's argument rests is twofold, (*a*) his theory of Fact and Value, (*b*) his theory of Time.

(*a*) Religion stands or falls with the belief in the existence of its object. This is why the religious life, as is explained in the Second Series, can never be merely an affair of spiritual values, severed from historical attachments. God cannot be manufactured out of universals. Morality, on the other hand, remains, as bare morality, within the limits of the 'ought,' which is irreducible to terms of 'is.' "A moral conviction is a belief not in the actuality or reality of anything, but a belief in the *goodness* of certain things, or . . . in the *rightness* of certain kinds of conduct" (I. 28). If this severance is ultimate, as is held *e g.* by McTaggart and Mr. Russell, the moral life can never span the gulf that parts it from religion.

In his second chapter Professor Taylor gives three arguments to show that this is not the case. (i) The severance rests upon a false abstraction. Universals are valueless *in abstracto*; virtue and knowledge, for example, have value only as the concrete experiences of actual persons. What is loosely spoken of as truth-value is really the value of the knowledge of an individual knower. Value thus belongs only to the actual; we are told later (II. 147) that God is "the supreme value at the basis of fact." (ii) The non-existent cannot be the object of a significant judgment. All propositions have existential import; the universal, as "a formal implication, not between propositions, but between propositional functions," is "something less than an actual proposition" (I. 48). But individual existence is not restricted to what has location and date in Space-Time. There follows an illuminating discussion of Aristotle's doctrine of analogous predication as applicable to the concept of existence, in which Professor Taylor implicitly refutes, what he nowhere treats explicitly, the theory, held by Dr. Moore and others, of the "subsistence" as distinct from the "existence" of universals. (iii) No hard and fast line can be drawn between given fact and our interpretations of it in terms of value. We never meet with a bare datum devoid of meaning, or with interpretation barely superimposed by the mind on fact. The actual world is such that values, like other real qualities, are found within it. In Professor Whitehead's language, a *res vera* destitute of ingredient objects is as mythical an abstraction as a merely possible object that has no ingredience in a *res vera*. This last point is developed in fuller detail in the later pages of chapter viii, where Professor Taylor, in reference to the *dictum* that "the other world is this world rightly understood," insists that all understanding is appreciation, and that value is discoverable, not in man's moral experience only, but throughout Nature. The world presents in its structure a hierarchy of patterns, kinematical, biological, psychological, moral; a hierarchy wherein the more abstract subordinate patterns reproduce, "in varying degrees of fullness and distinctness, the characteristic pattern of the whole" (I. 360), and admit of understanding and appreciation just in so far as they are seen to be instrumental to the richer and all-pervasive pattern. The whole pattern must indeed remain unfathomable to our intellect, "but the richer partial patterns at least indicate to us what are relatively the dominant features." These "dominant features in the pattern of reality" are what we mean by values (I. 374).

The facts are what they are through men's moral valuations, and those valuations reveal the nature of the facts. But there are bad actualities as well as good. Professor Taylor is not the man to ignore the problem of evil

in the world and man. He wonders rather (I. 163–4) that so many moralists, always excepting Plato and Kant—and, we may add, Butler—have shirked this issue, confining their attention to the nature of goodness and the good. *Nor does ideal value admit of complete realization within the sphere of temporal existence* Yet, if it be not realizable, man's moral life is an illusion, and his struggle against evil passion a vain endeavour The discussion of value here brings us to the theory of Time.

(*b*) Morality and religion alike imply that Time is real Professor Taylor ably vindicates its reality against McTaggart (see the admirable criticism in the note appended to chapter iii) and ancient and modern theosophical theories Morality and religion alike imply transcendence of the temporal order. Here Professor Taylor comes to grips with Naturalism Time is indeed the stuff out of which the moral life is shaped, but if that life has any meaning, it means a tension between the temporal and the eternal To be aware of the temporal is already to transcend it Man not merely, like lower organisms, has a history, responding to the environment in a manner dependent on the route by which he has reached his present state, his past is a *living* past, *which he can shape by rational purpose, thus presaging an ideal experience* in which past and future are gathered within the compass of the present. What sort of Time, what sort of Eternity, does morality thus imply? The Time that is real is not the abstract Time of mathematical physics, with mere succession of earlier and later, and no past, present, or future, but the lived Time of human conative experience, Bergson's *durée reelle*, with its 'no more' and 'not yet', and with succession within the 'now'. (Professor Taylor returns to this theme in the eighth chapter of the Second Series, where he subjects Bergson's theory of intellect to very trenchant criticism). The eternity, which is requisite for man's attainment of the moral goal, is not the absolute eternity of God, without duration or succession, but a continuous present, which, though without consciousness of past and future as such, admits of succession within its unending stretch, and of progress not *towards*, but *in* fruition The successiveness would lie, not in the knower or in the *knowing*, but solely in the known (I 429) This highly interesting, if difficult, view of a Heaven that allows of a real "communion of saints" in reciprocal relations of service and of a *visio Dei* that forms a sequence of wonderful surprises, is supported by analogies from the richest human experiences (*e.g* the full enjoyment of music or intellectual converse), and by reference both to the Aristotelian distinction of *γένεσις* and *ἐ ργεια*, and to the Thomist concept of *ævum*, *i e* of a "participated eternity", which is "all at once", and yet permits of the consciousness of "before and after" within the "now". Professor Taylor claims that it "conforms exactly" to Boëthius's classic definition of eternity.

Since the basis of the moral life is in the temporal and its crown in the supernatural, the Good for man must be sought beyond the limits of the historical order. Professor Taylor is alive to the difficulty of determining its nature. "The 'Form of Good' may be 'the master-light of all our seeing', but if we are asked *what* it is, though the better men we are, the less hopelessly vague our answer may be expected to be, the best of us has nothing like a 'clear and distinct idea' of what he would be at" (I 70) But interpretation, on Cartesian lines, in terms of 'clear and distinct ideas,' equally breaks down whenever we pass beyond those aspects of nature that are explicable by purely kinematical formulæ. It is a grave error "to contrast the life of ethics as lived in the clear daylight with the life of religion as one of twilight, mystery, and danger. All these are to be found in the ethical life itself" (I. 161) All Utopias modelled after the fashion of man's temporal environment seem on examination "at

least as likely to prove a 'hell on earth' as a 'heaven below.'" Moral insight does not decipher the future in the light of the present and the past, but rather the past and present in the light of a future, which, when it arrives, reveals the significance of the antecedent happenings for an unforeseeable and startling issue. This is what Hegel called 'the cunning of Reason'; and it is applied significantly, in the Second Series of these lectures, to justify the sudden and intrusive character of religious revelation (II 85 ff.).

Professor Taylor identifies—in our opinion somewhat rapidly—the Moral Ideal with God. He has no patience with mere abstractions. The supreme Value must be One and Individual As against the doctrine of a plurality of intrinsic goods, he appeals to the principles of analogical unity and of hierarchical order, and to the evidence, within human experience, that moral advance means progressive unification alike of personality and of the goods that are the objects of its desire (I 101 ff.). As against Kant, he argues that the Moral Law is impotent to excite worship, "we cannot worship what is no richer in quality than our own self; we can only worship what is all, and more than all, we mean when we speak of ourselves as living, intelligent, moral, and personal" (I. 159). Further, the attainment of the Good, the task of becoming like to God, is impossible apart from grace. Professor Taylor is troubled by the failure of ethical thinkers, especially Spinoza and Kant, to handle the problem of the adequate motivation of the Will for Good. If man is to reshape his personality and rise from the plane of the temporal to the eternal, it can only be through an act of initiative from the divine going forth to meet his responsive effort. God must be the efficient as well as the final cause of moral redemption. Such is the purport of the chapter (vi) entitled "The Initiative of the Eternal," perhaps the finest in the first volume, in which the author effects the passage from morality to a theology that is not merely natural but revealed. In the following chapter he treats of the super-temporal destiny thus marked out for man by his moral nature. Following the Platonic and Christian tradition, for which the belief in immortality is bound up with the belief in God, he rejects alike McTaggart's non-theistic and non-ethical arguments, the historic metaphysical argument from the simplicity of the soul (which proves only that, if the soul perishes, it perishes all at once), and the empirical argument from psychical phenomena. None of these has the ethical basis requisite for adequate demonstration. Professor Taylor holds that demonstration is possible, if it be granted that moral obligation is unconditional and that its claim is unrealizable within this-worldly experience. Reality of function implies a real environment for its exercise. Moral vision, like physical vision, implies a real object (I. 231); and the object is nowhere discoverable in a world of becoming which, as such, possesses no abiding actuality. "Unless we admit that moral imperatives cannot and need not be justified at all, and to have no genuine obligatoriness about them, we must be prepared to admit that there is good rational ground for anticipating a destination of human persons which is ignored when such persons are thought of as merely transient; morality will thus bear a real witness of its own to the presence of the seeds of immortality in us" (I. 293).

Professor Taylor will hardly expect the line of reasoning by which he develops the implications of morality to these fine issues to be accepted without cavil by the majority of philosophic critics. The present reviewer, finding himself in substantial agreement with the argument, is inclined rather to question whether the delimitation of the spheres of morality and religion has been drawn with sufficiently firm a hand. We readily agree that morality is not a self-contained form of experience, but points beyond itself to a goal incommensurable with any temporal actualization; that man's desire for

good, when thought out, is found to be a desire for a *res infinita et æterna*, and that when religion is brought to bear on human conduct, it raises moral *praxis* to a higher and richer plane Moreover, it effects this transfiguration, as Professor Taylor well shows (II 63–65, 269 ff), not so much by express ethical teaching as indirectly, by its revelation of the nature of God In the Second Series Professor Taylor makes abundantly clear that religion is "something quite different from a moral rule of life" (II 67), that "morality at its best, and the practice of the presence of God are two, not one" (II. 68), and that to treat religion as an "instrumental adjunct" to morality means death alike to genuine worship and to earnest moral endeavour (II. 137). But, in the First Series, we find him constantly characterizing the moral life in terms which are proper only to religion; as when the notion of sin is described as ethical rather than theological (I. 163, 169), or repentance is spoken of as a constant feature of moral experience (I 85, 175), or the moral life is regarded as a "dying life" (I 132), or "Thou must be born again" is said to be "*the central proposition of all genuine morality*" (I 233) There is a certain ambiguity between such a "genuine morality," which is in fact morality enriched by religion, and the "mere morality," of which Professor Taylor is apt to speak with, it seems to us, undue disparagement We regret that he should not have set out on his enterprise by defining clearly and in detail the nature of morality as such, the morality that we find expounded, *e g., by Aristotle and Dr Moore, and have subsequently developed from this* basis its implications of self-transcendence There would then have been no danger of blurring the distinction between mere morality and morality informed by the spirit and temper of religion As it is, Professor Taylor tends to interpret the moral life proleptically, as the *virtus infusa*, so clearly distinguished by St Thomas from the morality attainable by the natural light of reason, *i e* as virtue raised to a higher power through the possession of revealed truth and the inspiration of supernatural grace The morality realizable in the lives of good men who are "deity-blind" is something quite different in its character and value from the morality of Naturalism on the one hand, and, on the other, the transfigured *praxis* of the saint.

There is a further point which we should like to question in Professor Taylor's account of the moral life. He follows the historical tradition in interpreting it as a life lived *sub ratione boni* and motived solely by desire of good, in opposition to the Kantian doctrine which interprets it in the light of the concept of duty, holding that an action to be moral must be done for the sake of its own rightness and for no ulterior end But we refrain from labouring here our grounds for disagreement, since they have been fully expressed in articles recently published in this *Journal*.

The Second Series of Lectures, entitled "Natural Theology and the Positive Religions," deal with the question how far a philosopher is *reasonably* justified in accepting, in principle, the contingent or historical, as distinct from the purely rational, features regarded as essential by all the great positive religions These features are (1) their claim to rest on an immediately given revelation (ch ii), (2) the inclusion among their *credenda* of assertions as to historical fact (ch iii.); (3) the miraculous character of certain of these alleged facts (ch. iv), (4) their appeal to an authority, which, as divine, is held to be infallible and final (ch v), and (5) their prescription of a corporate rule of life and worship, their institutions, and their sacraments (chs vi, vii) Professor Taylor endeavours to handle these features as common to the higher world-religions and to avoid as far as possible discussion of doctrines and practices peculiar to his own form of Christianity. His aim throughout is to show the speculative insufficiency of any purely Natural Theology, and so to

vindicate the intrinsic reasonableness of a faith in a supernatural revelation. He is fully aware that he is skating upon thin ice. He obviously must turn for concrete illustration to the religion with which he has direct personal acquaintance; and he has a pleasant way of ruling out a particular topic as "of course" beyond the strict programme of his lecture, and then expatiating upon it, to the delight and instruction of the reader. But no one can charge him with transgressing the limits prescribed to a Gifford Lecturer. The arms of the founder are, in fact, wider than those of St. Peter; and Professor Taylor need have no fear that when he meets Lord Gifford in their true *patria* he will be visited with reproaches for his bold ventures.

In discussing this Second Series we must limit ourselves to three general observations. (1) The argument throughout rests on analogy between those aspects of secular experience which defy rationalization and those in which the positive religions discern the marks of supernatural agency. So genius in art and science presents a like intrusiveness to prophetic revelation, disclosing suddenly, at rare intervals and to a few chosen spirits, a vision of reality which demands an act of faith for its acceptance. So in the evolutionary process new qualities emerge, to be accepted as inexplicable fact, displaying in their emergence an abruptness and discontinuity analogous to the miraculous in religion. Scientific knowledge of the physical is the product of intelligence controlled by the authority of sense-perception, an authority incapable of rational justification, and whose claim to "infallibility" does not preclude all possibility of error. Family and communal life generate their appropriate forms of ceremonial observance which serve to focus and foster the personal loyalty of their members. Once more, Professor Taylor shows, in what is perhaps the most impressive chapter in the Series, how the principle exemplified everywhere in the intellectual and moral life of man, that the physical ministers to the spiritual as its outward and visible embodiment; would lead us to expect that "if there is a further level of the life of the spirit concerned with conscious relation to the divine," the highest gifts of God should, "as a general rule, come to us in connection with, and dependence on, physical things and bodily acts as their channels or instruments. In a world where nature is full of sacraments, it would be strange if grace had not its sacraments too" (II. 303). (2) In chapter viii ("The Ultimate Tension"), Professor Taylor returns to the problem of Time and the Eternal. The acceptance of the historical element in religion "requires us to ascribe a significance to Time and temporal events and processes which is denied to them" by many philosophers (II. 321). After a detailed exposition, on the lines laid down by Dr. Whitehead, of the limits and relative justification of the rationalist theory of Space-Time, he shows how a thoroughgoing historical view of nature has come to replace the abstract and geometrical, and how contingency and individuality are discernible in every quarter of the universe from the electron to man. The world of becoming is revealed as a world, not of mere becoming, but of *γένεσις εἰς οὐσίαν*, *i.e.* becoming that tends to stable activity of self-expression as its end. God in His perfect self-contained individuality furnishes the solution of the tension "Becoming and time . . . should be thought of, not as the logical contraries of being and eternity, but as depotentialized, imperfectly communicated, being and eternity" (II. 366). "We are temporal, not because there is a foreign element in our being which does not come from God, but because what there is in us is not the whole plenitude of the riches of God's being" (*ibid.*). "When we say of God that He, and He only, is strictly and fully the eternal being . . . , we do not mean that there is nothing in this life in any way answering to what we experience as movement and process; we mean that the experience is there, but that in Him it is not, as it is in

varying degree with all His creatures, one of being more or less at the mercy of circumstance; there is nothing in Him like what we experience as movement to an unknown or half-known goal" (II. 365) And, at the close of the same chapter, Professor Taylor, dealing with the difficult problem of Divine Impassibility, stretches this admission of movement into God's nature to the length of ascribing to Him an emotional life, which, in its freedom from transition from a lower to a higher grade of activity, transcends our own, just as, in the way of knowledge, our discursive processes are transcended in His perfect intellectual intuition (II 371)

(3) Both these points raise a problem, to which Professor Taylor's views on epistemology are highly relevant "It is a grave mistake to assume," he writes in his closing chapter (II. 378), "that a theory of knowledge is, by itself, a sufficient basis for a metaphysical philosophy." For "we are not related to the real as spectators to a picture," but as actors within an unfinished drama; and the drama presents contingent features which resist inclusion within the *cadres* of logical categories. Alternative metaphysical interpretations, as Kant himself saw, are always possible, and "the choice between them has to be made on other than purely speculative grounds." "It would be disloyalty to reason to deny that the real world is one in which the prosecution of science is possible, it is not disloyalty to hold that the world is something other and more than a mere field for the elaboration of science" Religion with its specific experiences can claim autonomy and the right to think out its own *data* unfettered by any categories imposed from without There is room for a genuine knowledge that is the outcome of religious faith

This doctrine is very important, especially in regard to the possibility of knowledge of God Professor Taylor is firm in his refusal to base religious faith merely on emotion, to the exclusion of intellectual apprehension of reality. We wish he had developed more fully his suggestion that "there may be truth that is not propositional," difficult as it may be to make room for it in a metaphysical scheme (II. 386). We have seen how constantly he recurs to the "way of analogy," which was formulated with such precision by St. Thomas, it is his obvious refuge from the *via remotionis* and its confession of "absolute nescience" of the Divine nature While we are wholly with him in his desire thus to secure positive knowledge of God, we feel a little uneasy at his silence on the difficulties that beset his path There is need for a criterion of such analogies, to save from illegitimate anthropomorphism: and where can the criterion be found? Again, what proportion is there between the Creator and the creature, the infinite and the finite? It is hard to justify an analogy, where one term is incommensurable with the remainder. Nor does the word *eminenter* furnish a very satisfactory solution; it states a problem rather than answers it What we seem to need is an attribute possessed alike by God and man in widely differing measure, but without difference in kind We cannot assert this either of goodness or of intelligence or of power; is it possible to follow a hint given by St Bernard and assert it of love? In that event, the term love, alike in God's love for man and in man's love for God (and for God alone), would be not merely analogous, but univocal, in meaning We should be provided with a positive standard in the light of which we could test all further predications.

To conclude: Professor Taylor shows us in these volumes that the *Dieu des pauvres et des humbles* is also the *Dieu des savants et des philosophes* (II. 320). The supposed contrast vanishes before a reasonable metaphysic We have done scant justice to the breadth and penetration with which Professor Taylor handles this high argument. We have barely noticed his frequent and acute criticisms of other philosophers, notably of Plato, Spinoza, and

Kant among the classics, and among the moderns of McTaggart, M. Bergson, and Professor Whitehead. We have said nothing of his treatment of the problem of evil, of his tentative but arresting excursions into eschatology, or of the discussion of contingency and freedom that forms the Appendix to the second volume He has provided a storehouse of speculative treasure, alike for the philosopher and the theologian Above all, he has succeeded where, we are sure, he most desired success. Thanks to his book, it will no longer be possible for a serious metaphysic to ignore the claims of revealed theology to give knowledge of the nature of the real.

W. G. DE BURGH.

The Right and the Good. By W. D. Ross, M.A., LL.D., Provost of Oriel College, Oxford. (Oxford. at the Clarendon Press. 1930. Pp. vi + 176. Price 10s. 6d.)

This is a masterly essay on what is perhaps the most difficult group of problems in moral philosophy. It is masterly alike in design, in argument, and in expression. Dr. Ross states his views definitely, but without a trace of dogmatism; he says precisely what he means, and bases his conclusions on careful examination of the evidence and with full discussion of relevant objections. He never loses sight of Aristotle's counsel to attach weight to the judgments of men of trained moral character who are not professed philosophers, allowing that there is much in "what we really think" that deserves to rank as knowledge. Abstract principles are illustrated throughout by examples drawn from concrete moral experience. The style is condensed, but never at the cost of clarity, and is singularly free from technicalities. The book does not make easy reading, for the author is all out for "the rigour of the game," and eschews the diffuseness and irrelevancies with which so many writers on ethics seek to edify the public. But the serious student, be he philosopher or no, will find it an invaluable source of enlightenment; if we may use a phrase which Dr. Ross himself shows to be inaccurate, it is a model of what an ethical treatise "ought to be."

Chapters I and II deal with "Right." Subjectivist and sociological explanations are briefly dismissed, on the ground that they have been adequately countered by other writers. The "Ideal Utilitarianism" of Dr. Moore, on the other hand, is criticized in detail, especially in its later form, according to which productivity of the greatest possible good is held to be the sole determining ground of the rightness of an act. The decisive objection to this theory is its implication "that the only morally significant relation in which my neighbours stand to me is that of being possible beneficiaries by my action" (19). Is this even plausible? Dr. Ross admits, of course, that there is a *prima facie* obligation to promote good, and that in certain situations this obligation may be paramount; but it fails "to do justice to the highly personal character of duty" (22), or to explain why we ought to pay a debt or keep a promise, even in the face of counter "optimific" probabilities. The alleged synthetic connexion between "right" and "productive of most good" is neither self-evident, nor deductively demonstrable, nor capable of inductive establishment. Dr. Ross agrees with Professor Prichard, to whom he acknowledges his indebtedness in the Preface, that the concept of Right, like that of Good, is indefinable and ultimate.

Professor Prichard's influence may also be discerned in two positions set forth in these opening chapters, which call for closer consideration. (*I*) *The rightness of an act is sharply distinguished from the moral goodness of an action.*

on the ground that the former is wholly independent, the latter wholly dependent, on the motive (We note in passing a slight ambiguity in Dr. Ross's exposition is it the whole action, *i e.* "the doing of the act from a certain motive," or merely the motive, that is morally good or bad?) It follows that a right act may be a morally bad action, a wrong act a morally good one, and that "nothing that ought to be done is ever morally good" (4). This doctrine carries with it far-reaching consequences, *e g* as regards the distinctions of justice and benevolence, benevolence and beneficence (53), the differences of types of moral judgments (101–102), and the denial that right is a form of value (122, 132–133) The present reviewer has stated his objections to it in a recent number of this *Journal*, and will only refer here to the two arguments put forward by Dr Ross (*a*) "Ought" implies "can", but "it is not the case that I can by choice produce a certain motive in myself at a moment's notice, still less that I can at a moment's notice make it effective in stimulating me to act" (5) The case, however, is not so simple as it seems Are we not here up against the whole problem of moral freedom, and particularly that aspect of it which has received all too little attention from ethical writers, how we can secure effective control of the passions by reason The difficulty is no greater than that of making myself act rightly on Dr Ross's interpretation of a right act In his closing chapter (VII, on "Moral Goodness") Dr Ross explains "the moral goodness both of actions and feelings" as arising from "their proceeding from a certain kind of desire" (156) Is it the case that desires are less capable of control than acts? However difficult the task, the control of desire is surely the main business of the moral life. And what sense is there in calling an action *morally* good, if it is not possible to command the motive (or desire) on which the goodness depends? The truth seems to be that on any view of the relation of motive to obligation we are confronted with a contradiction intrinsic to moral experience. "Ought" implies "can"; yet, in any concrete moral action, duty remains unfulfilled. The discussion of this antinomy would lead, as it led Kant and Bradley, into the field of metaphysics, and Dr Ross rigorously avoids all such excursions. When, however, he comes to ask what in an individual situation it is obligatory to do, and takes the case of the duty to return a borrowed book to a friend, he insists that the duty has not been done unless we actually secure the book's return, despite the fact that certain steps in the process lie outside of our control. The book may be "destroyed in a railway accident or stolen by a dishonest postman" "We get the curious consequence that however carelessly I pack or dispatch the book, if it comes to hand I have done my duty, and however carefully I have acted, if the book does not come to hand I have not done my duty" (45). What then becomes of the principle that "ought" implies "can"? (*b*) Dr. Ross's second argument is a *reductio ad absurdum* "If the sense of duty is to be my motive for doing a certain act, it must be the sense that it is my duty to do that act If, therefore, we say "it is my duty to do act A from the sense of duty," this means "it is my duty to do act A from the sense that it is my duty to do act A." And here the whole expression is in contradiction with a part of itself The whole sentence says, "It is my duty to—do—act—A—from—the—sense—that—it—is—my—duty—to—do—act—A." But the latter part of the sentence implies that what I think is that it is my duty to—do—act—A simply" (*ibid*). Are we not here again faced by the antinomy which we said was inherent in all moral experience? No particular dutiful act A is adequate to express the principle of duty universal which is the moral motive. If I have any moral knowledge at all, I *know* that after doing what I *call* my duty in a given situation (and it is only by thus acting that I can in any measure realize the universal), I remain, for all my effort,

an unprofitable servant. I have *not* done what it was my duty to do. Again, when the motive is particularized as my sense that it is my duty to do act A, it merges in the intention, in what I will to do. Thus if the act be taken, as it should be taken, to mean the inner act of will, exclusive of features in the overt act which lie beyond our control, difference of motive entails difference, not merely in the *action*, but in the *act*. The error which results in so much argument "at cross-purposes" (156) lies not in the failure to distinguish moral goodness from rightness, but in the illegitimate severance of abstract motive from an equally abstract act. The distinction between what is right and what is morally good rests not, as Dr. Ross holds, on the exclusion of motive from the one and its inclusion in the other, but on two quite different grounds. The judgment of moral goodness is passed (*a*) on a system of acts or on standing desires and dispositions to act, and (*b*) from the standpoint, not of the man acting, but of himself or another *theoretically* reviewing the action, as an impartial spectator, after the event. The strict and concrete moral judgment is that of "right."

(II) We have seen that the beneficiary relation is not the only one that has moral significance. There are others, *e.g.* of creditor to debtor, child to parent, friend to friend, which generate *prima facie* obligations (19). Dr. Ross attaches much importance to these *prima facie* or conditional duties, giving an excellent classification of them and of the ways in which they arise. They are not actual or absolute duties; they are general, not particular; actual duties are toti-resultant attributes of an act, belonging to it in virtue of its whole nature, while these are parti-resultant, belonging to an act in virtue of some one component of its nature (28). They are not arbitrary, but objective facts involved in an element of the practical situation, and bearing witness to the moral order which "is just as much part of the fundamental nature of the universe . . . as is the spatial or numerical structure expressed in the axioms of geometry or arithmetic" (29-30). Moreover, these *prima facie* duties are self-evident and strictly *known* (Dr. Ross is very insistent upon this), whereas particular duties are neither self-evident nor deducible from self-evident principles, but matters of probable opinion. "*ἐν τῇ αἰσθήσει ἡ κρίσις*. This sense of our particular duty in particular circumstances, preceded and informed by the fullest reflection we can bestow on the act in all its bearings, is highly fallible, but it is the only guide we have to our duty" (42). In his desire to vindicate a place in ethics for moral *knowledge*, Dr. Ross seems to us to exaggerate the importance of the abstract principles which alone we can be said to know. They enter doubtless into the theoretical review of the practical situation antecedent to the decision as to what we ought to do. But subsumption of cases under general principles is normally very subordinate to the particular factors in a situation; what counts, for instance, is my peculiar obligation to A rather than the general obligation of gratitude to a benefactor. In grave moral crises we often do not know our duty till we are plunged in the specific situation; the vision, when it comes, comes as a surprise, unforeseeable by ourselves or others.

We have dwelt on the matter of the two opening chapters because the views there expressed are of special importance for an understanding of moral action. The rest of Dr. Ross's book (save for two *appendices* on "Rights" and on "Punishment," and the concluding chapter on "Moral Goodness") carries us beyond the field of morality proper to a discussion of the whole problem of Value. Space forbids us giving to these chapters the attention they richly deserve. The analysis of the varied uses of the term "Good" in Chapter III is quite the best we know. In defining "intrinsic good," Dr. Ross engages in one of the "private fights" with Dr. Moore, which, despite a wide

measure of agreement, occur at intervals throughout the volume. The issue in this case is the applicability of the principle of organic unities to the discrimination between "intrinsic" and "ultimate" goods. Chapter IV (on the "Nature of Good"), the longest in the book, is largely taken up with criticism of Professor Perry's and Professor Urban's theories of value. Dr. Ross himself rejects all relational interpretations, whether ontological (*e.g.* of coherence between elements in the object, or, again, of fulfilment to tendency) or psychological (Perry), maintaining that goodness is a consequential property, "that anything that is good must be good either by virtue of its whole nature apart from its goodness, or by virtue of something in its nature other than goodness" (79). Value is not, as Professor Urban holds, an objective, though only objectives, or, preferably, facts (since objectives are no real entities) possess value (111–113). Moreover, the value judgment carries an existential implication, "actual value presupposes actual existence, and conditional value supposed existence" (114). Dr. Ross, it will be seen, has no truck with subjectivism, either in the case of right or in that of good. The claim of beauty to possess intrinsic value gives rise to a very interesting discussion (124 ff.). Beauty is certainly not subjective, nor, being sensuous, purely objective, it is grounded on the power things have of producing in minds the experience of æsthetic enjoyment. Dr. Ross, we may note, accepts the traditional view that secondary qualities are relative to the percipient. Rightness, on the other hand, is intrinsic, but not a value, an act only has moral value when done from a good motive, *i.e.* as a morally good *action*. The last half of the chapter also contains another "private fight" with Dr. Moore, this time on the distinction between difference of intrinsic nature and difference of quality, and on the sort of necessity by which two things that are exactly alike *must* have the same value.

In Chapter V the author asks "what kind of things are intrinsically good?" His answer is brief, he falls back, as does Dr. Moore in *Principia Ethica*, on his happy gift of judicious intuition. Only states of consciousness possess intrinsic value, and, among these, virtue, pleasure, the apportionment of pleasure to the virtuous, knowledge and, in a less degree, right opinion, together with their combinations (*e.g.* æsthetic enjoyment and the mutual love of persons). Chapter VI is concerned with the commensurability and grading of these intrinsic goods. The main conclusions are these: (*a*) Pleasures are commensurable, and "the conditions for rough commensuration are sometimes fulfilled"; further, "the difference between physical and mental objects in respect of commensurability is not so complete as it might appear" (143). (*b*) "The intrinsic value of a state of knowledge or opinion seems to depend on three elements: (i) the degree of its groundedness on fact, (ii) the degree to which the strength of conviction with which it is held corresponds to its groundedness, (iii) the generality of the fact known, or believed to exist" (148). Inferential knowledge must not be rated above non-inferential, or *vice versa*. On count (iii) Dr. Ross appears to hold that right opinion in metaphysics (where little knowledge is possible) may surpass in value such departmental knowledge as can be obtained in, say, chemistry. Finally (*c*), pleasure is vastly inferior in value to knowledge, and both knowledge and, *a fortiori*, pleasure are not merely inferior to, but incommensurable with, virtue. No increase in knowledge can atone for failure to do our duty or for deterioration of moral character. Dr. Ross explicitly disclaims any intention of advocating asceticism, but it is startling to find him here falling into line with a celebrated dictum of Newman. The chapter, already referred to, on "Moral Goodness," in which he distinguishes and balances in value the various morally good desires, and discusses both vicious motives and the problem of

co-operating motives, brings to a close a book which forms a notable contribution to the living study of moral philosophy.

W. G. DE BURGH.

The Revolt against Dualism: an Inquiry concerning the Existence of Ideas. By Arthur O. Lovejoy (London: George Allen & Unwin Ltd. 1930. Pp xii + 325. Price 15s)

In selecting "The Revolt against Dualism" as the theme of his *Carus* lectures, Professor Lovejoy has certainly chosen a problem of great interest to contemporary philosophers The result is a book of considerable importance. It should do much to aid us in thinking clearly with regard to the topics discussed. Unfortunately, the style in which the book is written makes difficult reading, the sentences are apt to be excessively long, with parenthetical interruptions of an irritating kind. But Professor Lovejoy's logical method is wholly admirable, and the book well repays the pains of reading it.

"It is," says Professor Lovejoy, "primarily with hypothetical questions that philosophical inquiries ought, I think, to be concerned. Philosophy would proceed with a somewhat steadier gait, and agreement among philosophers would come about more rapidly, if they would oftener put the problems they discuss, and especially those they first discuss, expressly in this form: If certain things (which some philosophers or other men believe) are provisionally taken as true, what other things must or may be true? A great part of philosophy, in other words, should consist of attempts to determine what sets of propositions, in certain fields of investigation, properly go together" (p. 257). Only by the adoption of such a method could philosophy be made, as surely it should be made, a properly coöperative effort. The time for elaborate metaphysical constructions seems hardly yet to have arrived. The gain to philosophy would no doubt be considerable if philosophers were content to leave to popular scientists the ambitious construction of imposing systems, and were to devote themselves to the patient following-out of the consequences of plausible hypotheses. This is the method that Professor Lovejoy has in the main adopted in this book. He has sought to show that non-dualistic hypotheses lead to consequences that are unplausible, so that these consequences throw doubt upon the initial hypotheses. The method calls for much detailed and careful analysis. Of such analysis Professor Lovejoy is a master. Whether the outcome of his inquiry be acceptable or not, no one could follow his arguments without learning much to his profit. The present reviewer at least has been forced to reject some favourite prejudices which cannot withstand Professor Lovejoy's analysis.

In the short space at the disposal of this review it is impossible to do justice to the contents of this book or adequately to express the criticism to which it may be subject. All that can be done is to indicate the nature of Professor Lovejoy's argument and to suggest one important defect which the present reviewer finds in his treatment. The basis of Professor Lovejoy's argument is the acceptance of the common-sense view of knowledge as, in the main, to be justified. Thus he agrees that experience yields objects that are relatively permanent, independent of the observer who may be said to know these objects, and common to many such observers. But at the same time common sense admits the diversity of what is "immediately known"—the datum or content—from the object of which knowledge is claimed. Accordingly the most plausible initial hypothesis is that of epistemological dualism, viz. some form of the theory of representative ideas. Further, common sense unhesitatingly assumes the diversity of the physical and the psychical

But, as Professor Lovejoy points out, it is not immediately evident that the former, *i e.* epistemological dualism, implies the latter, *i e.* psychophysical dualism Reasons for denying the one are not necessarily reasons for denying the other It is, however, characteristic of twentieth-century philosophy to revolt against both types of dualism In the opinion of Professor Lovejoy this revolt has definitely failed

The first two lectures are devoted to an admirably clear statement of the nature of Cartesian and Natural Dualism, and to the difficulties to which these doctrines give rise There follow two lectures dealing with the theory of "Objective Relativism"—the name given by Professor Murphy to a theory that in the main derives from Whitehead. In his discussion of this theory Professor Lovejoy calls attention to the extreme ambiguity of the word "relativity," now so frequently bandied about by philosophers and physicists He well says. "One of the things most to be desired—though doubtless hardly to be expected—in the discussion not only of the philosophical doctrine we are now considering, but also of the physical theory of relativity, is the discontinuance of the use of this ambiguous word, and the substitution in each case of one or another of the expressions 'caused' or 'conditioned by,' 'respective to,' or 'appearing from the standpoint of ' The present fashion of employing a single term masks the fact that different sorts of 'relativity' are in question in different parts of the theory or in different interpretations of it" (p. 141). There can be no doubt that the adoption of some such terminology would conduce to greater clearness The criticism, in Lecture V, of Whitehead's denial of simple location makes evident certain difficulties in Whitehead's doctrine due to his assumption that all relations are internal Not all Professor Lovejoy's criticisms seem to the present reviewer to be well founded, but he has undoubtedly pointed out difficulties that are quite fundamental. His criticism is as timely as it is searching.

Lectures VI and VII are devoted to a detailed discussion of Mr. Bertrand Russell's various attempts to bring about a "unification of mind and matter " These lectures contain material that will be of interest to all students of Mr. Russell's philosophical writings But Professor Lovejoy's criticism here suffers from a serious defect, namely, his failure to take any notice of Mr. Russell's theory of descriptions. There are difficulties enough in Mr. Russell's views, but Professor Lovejoy has added a quite gratuitous difficulty owing to his failure to understand what Mr Russell means by a 'logical fiction ' It is true that Mr Russell's habitual carelessness of expression, and the unfortunate terminology in which he sometimes chooses to express himself, do constitute a serious obstacle to the understanding of his doctrines Nevertheless, an understanding of what precisely Mr. Russell means by 'logical fiction' is an essential prerequisite to any final criticism of his views.

In the last two lectures an attempt is made to review the problem of knowledge in the light of the considerations adduced in the preceding lectures It is impossible to summarize them here Attention may be called to the acute criticism of Eddington's view that the external world consists of mind-stuff, and to some interesting remarks with regard to the principle of indeterminacy.

The conclusion to which Professor Lovejoy is himself finally led is stated as follows: "If you are to believe in a real physical world . . . you must necessarily be a dualist in both senses of the term; you must hold (*a*) that there are given in experience particular existents which are not parts of that world, and you must hold (*b*) that whatever knowledge of real objects you have is indirect or representative, that the datum whereby you know an object is not identical with the object known" (p. 303). This datum is said to be "essentially of the nature of 'ideas,' as Descartes and Locke (for the most part)

used that term" (p. 264). Our knowledge of the external world is mediated through these ideas. In the opinion of the present reviewer this conclusion is not warranted. It is the cardinal defect of Professor Lovejoy's treatment that he nowhere attempts to analyse the notion of *indirect knowledge*. He simply takes it for granted that *to know indirectly* is to know mediately, and that *to know mediately* is to know through representative ideas. Moreover, "representative" seems to be taken here as being equivalent to "resembling," although Professor Lovejoy has also insisted that these "ideas," or data, are "destitute of the essential properties and relations implied either by the historic concept of the 'physical' or by the contemporary physicist's concept of it, and possess properties which physical things lack" (p. 264) But may not knowledge be indirect without being representative or mediated? Professor Lovejoy does not consider the possibility. On the contrary, his acceptance of a theory of representative ideas is based simply upon the discovery that knowledge of physical objects is not direct. The alternative, namely, that knowledge may be indirect without being either inferential or representative, is surely one that merits consideration as a plausible hypothesis.

L. S. STEBBING.

Our Knowledge of One Another. By C. C. J. WEBB, F.B.A. (London: Humphrey Milford & Co. 1930. Pp. 18. Price 1s. 6d.)

IN this, the Hertz Philosophical Lecture for 1930, Professor Webb treats of a problem which, as he notes at the outset, has received in the past less attention from philosophers than those of the nature of self-consciousness or of our knowledge of the external world; though the recent treatment of it by Professor Alexander (in *Space, Time and Deity*, Vol II), Dr. Broad (in *The Mind and its Place in Nature*), and Mr. C. Delisle Burns (*The Contact between Minds*), has done much to redress the balance (a later discussion still is that of Mr. W. W. Spencer's *Our Knowledge of Other Minds*,[1]) Dr. Webb's excellent lecture is too short to allow him to deal with more than one or two aspects of the question.

He begins by rejecting, and here he is on unassailable ground, the theory given in its naïvest form by J. S. Mill, that awareness of other persons is to be accounted for by a process of analogical reasoning, inferring the presence of an "other" mind from outward reactions similar to our own. Such an *inference* assumes that we are already outside the solipsism from which it professes to explain our escape. The experience of intercommunication "presupposes the existence of a mutual *rapport* between persons"; but if we have granted this "spiritual *rapport*," our knowledge of one another may be said to be "mediated" by the perception of external happenings.

The last part of Dr. Webb's lecture is concerned with religious experience. Here he follows Profes or Alexander in denying that there is anything in the "response" of Deity strictly analogous to the response of a human person. The differences between the two relationships are: (1) that whereas in human personal intercourse it is only the perception of objects of a certain kind that mediates to us the knowledge of other persons, in the religious experience *any* object *may* have this mediating function with reference to its object, *i.e.* Deity; (2) that this object is not a mere *fellow* being, but there is attributed to it "a mystical intimacy with us."

I have only space for two very curtly stated comments. First, I do not think it can be maintained (though the error, if error it be, is on the right side)

[1] An excellent, rather less recent, treatment of the subject by a German thinker is to be found in the late Professor Max Scheler's *Zur Phänomenologie und Theorie der Sympathiegefühle*.

that "our knowledge of one another would seem to be anterior in time to our consciousness of self as such," though it is true, as Dr Webb later says, that "reflection on oneself as separate from one's fellows is subsequent to our recognition of them." These two statements are not, of course, equivalents. We may recognize a thing without reflecting upon it, and, anyhow, recognition must come first. I should prefer to say that self- and other-consciousness are born together, that self-knowledge and fellow-knowledge grow together and illumine one another by a process of give-and-take, but that reflective realization of one's own selfhood is certainly much later than the simple recognition of other selves

Second, I do not see why Dr Webb accepts Alexander's negative interpretation of the experience of Divine "response" The sort of Theism that Dr. Webb puts forward does not, to say the least, seem incompatible with a belief in a more specific form of revelation and self-expression on the part of the Deity than would be consistent with Dr Alexander's own theology.

J W HARVEY

The Mysterious Universe By SIR JAMES JEANS (London Cambridge University Press. 1930 Pp viii + 154 Price 3s 6d net)

This book is an expansion of the Rede Lecture given by the author at Cambridge in November last, and is meant to be read as a sequel to *The Universe Around Us* There is a widespread conviction, he says, that the new theories in astronomy and physics are likely to produce an immense change in our outlook on the universe as a whole and on the significance of human life. Since this is ultimately a subject for philosophical discussion, Sir James Jeans has set himself the task of stating in simple language what physical science has to say as regards relevant facts and hypotheses, for it is only after this that discussion may legitimately pass into the realms of philosophy.

The book is therefore concerned in the first four chapters with an account of The Dying Sun, The New World of Modern Physics, Matter and Radiation, Relativity and the Ether. In the fifth and final chapter, called "Into the Deep Waters," Sir James Jeans gives his own interpretation of present tendencies in physical science, without claiming to be a philosopher "either by training or inclination."

Taking, then, the first four chapters, we find outlined in Sir James Jeans' best style those advances in physical and astronomical theory which have come to the front recently and stimulated public interest The author is cautious enough to admit that the "apparent capriciousness in nature may be found, in the light of fuller knowledge, to arise out of the inevitable operation of the law of cause and effect" (p 22). He thinks that the puzzle of the notion of causation, and whether it can be applied rigidly to the ultimate constituents of the universe, lies ultimately in the problem of time. "It is always the puzzle of the nature of time that brings our thoughts to a standstill And if time is so fundamental that an understanding of its true nature is for ever beyond our reach, then so also in all probability is a decision in the age-long controversy between determinism and freewill" (p. 30)

There are three errors: one minor one involving a miscalculation of the probability of disintegration of radium atoms (p 21), another with regard to Einstein's universe, whose size one is led to believe depends on the quantity of matter in it (pp 60–61) and not on the mass-density, and a third with regard to Fig. 2, Plate II, which is described in the text as produced by electrons shot through a tiny aperture; this has not yet been done.

It is, however, with the last chapter that philosophers are chiefly concerned, in which Sir James Jeans puts forward tentatively his philosophical speculations. He seems to agree with those who "would hold that, from the broad philosophical standpoint, the outstanding achievement of twentieth-century physics is not the theory of relativity, with its welding together of space and time, or the theory of quanta, with its apparent negation of the laws of causation, or the dissection of the atom, with the resulting discovery that things are not what they seem; it is the general recognition that we are not yet in contact with ultimate reality" (p. 127). What is now being realised by some scientific men is that their knowledge of the world is only symbolic. This, of course, they would have known long ago if it had not been for that lofty disdain of philosophy which characterized so many scientists of the latter half of the nineteenth century, and which is still all too common to-day. Scientists are now tardily inclined to endorse Locke's conclusion that "the real essence of substances" is forever unknowable. They used to think that the universe was a vast machine: that, of course, they were not entitled to do; what they were entitled to assume was that the 'reality' behind the 'pointer-readings' they observed was machine-like, *i.e.* something whose parts were in strict causal relationship. Nowadays the suggestion is that the 'reality' behind the 'pointer-readings' cannot be machine-like, since there may not be strict causation.

Sir James Jeans thinks that since the behaviour of Nature appears to be best described by mathematical relations of a kind known as 'pure,' therefore the reality behind these pointer-readings, which constitute the variables in the equations, must behave like the mind of a pure mathematician. (This raises the very difficult question, as the author admits, as to whether any branch of mathematics is really 'pure' and composed of concepts divorced entirely from experience.) Sir James then goes on tentatively to suggest that if Nature behaves like a mind, and a mind consists of thoughts, then perhaps we may best regard Nature as made up of thoughts, and (after a quotation from Berkeley) these thoughts as occurring in a universal mind, that of the Great Architect of the Universe, who strongly resembles a mathematician.

The concept of Ineffable Purity must, it seems, be interpreted mathematically; and the uniformity of nature merely "proclaims the self-consistency of this mind" (p. 140). This view also explains why physics is becoming so abstract, and further "implies, of course, that the final truth about a phenomenon resides in the mathematical description of it" (p. 140). Any construction of models or pictures to illustrate the formulæ "is not a step towards, but a step away, from reality" (p. 141).

This, then, represents briefly, and rather inadequately, the philosophical tendency of modern physics as interpreted in a brilliant and stimulating way by one of the foremost mathematical physicists of the day.

There is an aspect of this book, however, which is wholly deplorable, and that is as an exposition of the scientific spirit and method. There are many statements which it is hard to believe were written by a Secretary of the Royal Society. On page 15 we are told, "Confronted with a natural world which was to all appearances as capricious as himself, man's first impulse was to create Nature in his own image"—a dogmatic statement ignoring the work of scientists who have given a lifetime of study to the question of early cults and beliefs, and the doubt which exists as to whether magic based on simple association may not be earlier than the 'projection' view. Again, on page 23, in discussing cosmic radiation, the author recalls the suggestion that this may have biological effects, and may have "turned monkeys into men." This sort

of phrase one expects in the popular press, but surely one is entitled to something more accurate from a Secretary of the Royal Society Yet again, on page 29, "To-day science . . has no longer any unanswerable argument to bring against our innate conviction of freewill " As though the work of Freud had no bearing on the question, as though Pavlov's experiments were beneath notice—but then astronomers are above sex and saliva! And finally, the ludicrous ending to the chapter on "Matter and Radiation"—"the whole story of its creation (the universe) can be told with perfect accuracy and completeness in the six words 'God said "Let there be light" ' "

Scientists, of course, know what to discount, but the sales of this book are reaching the hundred thousand class, and its effect on the public must be considered It is in this regard that Sir James Jeans has been severely criticized in the leading scientific weekly [1] No wonder that Sir James is recommended from the pulpit, no wonder that Sir Arthur Eddington is quoted by the page in spiritualistic journals, and the statement that physics is now mystical has penetrated into such a stronghold of conservatism and respectability as the *Law Quarterly Review* [2]

It does seem that, by the nature of their profession, astronomers attain a certain cosmic aloofness which enables them to ignore the work of scientists and philosophers in other fields than their own, and it is for this reason that they are the last people to whom the public should look for authoritative views on science, and that their philosophies, such as they are, are practically worthless. As H L Mencken shrewdly observes, speaking of writers of this sort:[3] "All they really prove is that a man may be a competent astronomer or physicist and yet no scientist, just as Blind Tom was a competent pianist without being a musician "

The publishers announce in the daily press that Miss Tallulah Bankhead has been pleased to observe that this book contains What Every Girl Should Know We had not suspected Miss Bankhead capable of such profound philosophical criticism: for ourselves, we can only say that we entirely agree.

G. B Brown.

Franciscan Philosophy at Oxford in the Thirteenth Century. By D. E Sharp, M A., D.Phil. (Oxford University Press London Humphrey Milford. 1930 Pp. viii + 419 Price 21s net)

This work, for which Dr. Dorothy Sharp has been awarded a doctorate in the University of Oxford, is unique of its kind, and cannot but be of the greatest use to students desirous of acquiring something more than a passing acquaintance with thought in mediæval Oxford. Dr Sharp has devoted years to a painstaking and detailed examination of writings, many of which exist only in manuscripts She has summarized their contents under various heads, such as *matter and form, cosmology, psychology, angelology, natural theology* Where the matter was of special importance she has transcribed long passages word for word, and throughout, in summarizing, has given copious and exact references, not only to manuscripts or printed works, but also to relevant passages in the works of Aristotle. The work as a whole is heavy reading, but if anyone wants to know what kind of philosophy was being taught in Oxford during the latter half of the eighteenth century, there they will find it, and, should they desire further information, will discover where it is to be found.

Dr Sharp confines herself to the writings of six philosophers, all of the same

[1] *Nature*, November 22, 1930 [2] January 1931. [3] *Treatise on the Gods*, p. 307.

school of thought, and all of them, save one, Franciscans. The exception is Grosseteste, first Chancellor of the University, and later Bishop of Lincoln. He is rightly placed at the head of the list, for, though not a Franciscan, he was their first lecturer in theology, and had a very great influence on the subsequent development of the School. Whether Richard of Middleton should have been included is more open to question. It is possible, but by no means certain, that he was an Englishman. He may have studied at Oxford, but the first person who affirmed this lived two and a half centuries later. His closest associations are with Paris, where he taught, and of which University he was a Master. He would seem, too, with respect to several points which were then controverted, to have approached far nearer to the Thomist doctrine than did most Franciscans of the Oxford School. Thus, with St. Thomas, he rejects (1) the ontological argument, (2) the Augustinian theory of *rationes seminales* immanent in matter, and (3) the doctrine—fundamental in Augustinianism—that divine illumination is the sole source whence we derive knowledge of eternal and necessary truth. He admits, too, that matter is, if not the principle of individuation, at least its *sine qua non*, and again, that in existent being there is *compositio ex essentia et actuali existentia*, while his account of our knowledge of God approximates yet closer to the Thomist position.

Drawn by the coherence of Aristotelianism, by its apparent success in analysing and interpreting nature, and by the fact that many of the conclusions to which it leads are similar to those which can be deduced from the Christian revelation, Franciscan, Dominican, and secular alike adopt Aristotelian principles, and seek to adapt them to another tradition, inherited from Plato, Augustine, Bœthius, and Anselm. Were one to blue-pencil in Dr. Sharp's book the doctrines which are derived from Aristotle, at least one-half of her book would be blue-pencilled. All admit that in created being there is potentiality or capacity for being and change, as well as actual character or form; that in corporeal being, form, save in man's case, is *educed* from the potentialities of matter; and that this eduction involves process and adaptation, though the emergence of the form itself is a *mutatio*, not a *motus*, and so is instantaneous; and again, that forms may recede into the potentiality of matter, whence they emerged; and that in the case of compounds the elementary forms remain not only *in potentia*, but *virtualiter*. Their account of the generation of living beings is also in all essentials Aristotelian, as Dr. Sharp is careful to point out. So, too, do they follow Aristotle in their account of how the universal is derived from perceptual experience. It exists in the thing, but not *as* a universal. In the thing its universality is but potential; it becomes actual only when apprehended by mind. Dr. Sharp does indeed quote a passage from Scotus on p. 297, in which he seems to affirm that the universal has being as a universal apart from mind; but he is here stating, I think, not his own doctrine, but a consequence deducible from a doctrine which he rejects.

Franciscan philosophy at Oxford is Aristotelian from the very outset, but its Aristotelianism at first is by no means so thoroughgoing as is that of the Dominicans in Paris. In its philosophy of nature it clings to the Augustinian doctrine of *rationes seminales*, existent in matter, and ever seeking to express themselves. In its theory of knowledge also it remains faithful to Augustine, for it does not admit that all knowledge is derived from perceptual experience: our knowledge of necessary and eternal truth presupposes divine illumination. It maintains, too, against Aristotle and St. Thomas, that it is possible to prove philosophically, not only that the universe is finite in extent, but also that it had a beginning. When we reach Scotus, however, we find both the cosmological theory of *rationes seminales* and the epistemological doctrines of illumination repudiated. Nor does Scotus admit that reason can either prove or

disprove the eternity of the world. He is at one with St. Thomas here, as he is at one with him also in asserting the immateriality of angels and of the human soul, and again in his method of proving the existence of God; for though he does not deny the validity of the ontological argument, he prefers *a posteriori* arguments

Dr. Sharp rejects the authenticity of a work commonly attributed to Scotus, namely the *de Rerum Principio*, and replies to the arguments by which Dr. Harris has sought to defend it She might have added that since the discovery of the MS 95 of Todi, containing the first fifteen questions with which the work deals, it has become practically certain that the *de Rerum Principio* is the work of Vitalis a Furno Yet, in spite of the fact that Dr Harris in the second volume of his *Duns Scotus* relied largely on this spurious work, the conclusion which he reached is substantially the same as that now reached by Dr Sharp. St. Thomas and Scotus are both thoroughgoing Aristotelians, and in essentials agree it is only as to details that differences arise, save in the case of the real distinction between essence and existence, which Thomists hold to be fundamental in their system For Scotus matter is knowable apart from form, and might conceivably exist apart from form, though in fact it never does St Thomas denies this, while Scotus on his part rejects the Thomist theory that form is individualized by matter Scotus teaches that there exists a bodily form distinct from the soul, but, on the other hand, that faculties are not distinct from the soul St. Thomas denies the existence of a *forma corporeitatis*, but affirms a real distinction between faculties and soul And on each of these points Scotus is supported by the teaching and arguments of his predecessors, as Dr Sharp has shown. I do not think she is right, however, in saying (p 287) that Scotus anywhere identifies active and passive potency with *potentia objectiva et subjectiva*, or that he taught *actio in distans* (p. 287), or that he held that God could not know the contingent (p 361) He teaches merely that God's knowledge of the future is not of the same kind or order as his knowledge of necessary truth, and that light, since it brings about no substantial change in the medium which it traverses, uses the medium *as if* it were not a medium

If Richard of Middleton is to be regarded as an Oxford Franciscan, he must be classed with Scotus as a thoroughgoing Aristotelian Pecham, on the other hand, belongs to the earlier school, and it is interesting to see how his carefully elaborated arguments for the immortality of the human soul are, upon examination by the more sceptical Scotus, declared to be inconclusive A long passage, cited on pp 190, 191, from the Dominican Fishacre, discusses the three views currently held as to the relation between the rational soul and the so-called animal and vegetative souls in man Dr Sharp thinks that Pecham held the view that the latter are distinct forms subordinated to the higher rational form, but the fact that Pecham regards them as quasi-material forms which "dispose" or prepare the way for the advent of the rational soul does not imply that they remain after the infusion of the latter. The Thomist also held this. Hence, one would have been glad of further evidence as to what Pecham's theory really was, and as to how he reconciled plurality of forms with that unity of soul on which he insisted so strongly, and this again with that bodily form—*forma corporeitatis*—which Grosseteste had so ingeniously accounted for by his theory of light It is a pity this latter theory vanished so soon, for modern theory also, according to Jeans, seeks, just as Grosseteste did, to "reduce the whole universe to a world of light, potential or existent." Dr. Sharp has done excellent work in compiling from his various writings the metaphysical theories of Grosseteste, and again in giving us so full an account of the philosophy of Thomas of York, which as yet exists only in inaccessible

manuscripts. Is one right in saying that this Oxford school was experimentalist? It would seem to be very doubtful except in the case of Roger Bacon.

Inevitably, in so vast a work, there are many statements to which one might take exception, and especially do I find this to be the case in the concluding chapter. Amongst the "things" involved in the Aristotelian and Scholastic account of becoming, the final cause should certainly be included. Again, matter surely for Aristotle is entirely passive. it is Augustine, and the Franciscans who ascribe to it activity. Nor does Aristotle in the passages cited on p. 372 refer to "privation as an accident of matter": he says merely that privation is accidental or incidental. Again, though Scholastics certainly teach—as did Aristotle—that the agent must contain at least *in virtute* what they are to produce, I do not think that this doctrine was intended to avoid "any emanational exhaustion of the agent's power during its operation on other beings"; nor can I find either in Grosseteste or Bacon any evidence of such a theory. Plato, too, does not adopt as his three first principles: God, Ideas, and Matter, but God, Ideas, and a certain something which he first calls a *receptacle* (*δεξοδοχή*), *and then identifies with space. Nor is this third factor* intractable, but rather indifferent to form. It is true that many philosophers have identified this receptacle with matter, but it is scarce true to say that Plato "came to the conclusion that matter is best called receptivity." Neither is it exact to say that Aristotle in 1029*a* speaks of matter as a substance: he discusses the view of those who maintain this, but only to reject it, his own doctrine being that substance comprises both matter and form. More seriously inaccurate is the statement that "Albert the Great and St. Thomas treated matter as mere receptivity." They do nothing of the kind. They lay no less stress on the potentiality of matter than does the Franciscan school. The difference between the two schools lies firstly in the fact the Thomist conceives matter as something which is potentially extended and will inevitably become extended as soon as it is actualized, whereas the Franciscan school in its early period identifies matter with potentiality of any kind, and so ascribes it to angelic beings, which the Thomist declines to do. Again, the Franciscans—as Dr. Sharpe rightly points out—incline to the view that matter has some sort of reality, and so of knowability apart from form; whereas the Thomist denies this, as he also declines—with Richard of Middleton and with Scotus—to ascribe to matter any sort of activity, however inchoate.

A task of great complexity and enormous detail, requiring no small skill alike in the reading of manuscripts, and in the translating of highly technical terms and phrases, has been successfully accomplished, and it were ungrateful to find fault with occasional ambiguities or what seem to be misinterpretations. Dr. Sharp's work provides the student with a mine of useful information, and withal, abundant references; wherein to my mind lies its chief value, for, if one wonders whether a technical term has been rightly rendered, or a doctrine rightly understood, one is never left in doubt as to where the passage comes from upon which the author's statement has been based. There are also valuable bibliographies and two most useful indices.

LESLIE J. WALKER.

Church, State, and Study. By ERNEST BARKER, Litt.D., D.Lit., LL.D. (London: Methuen & Co. 1930. Pp. vii + 280. Price 10s. 6d.)

It would be misleading if, without explanation, we called *Church, State, and Study* a philosophical book. Most of its problems belong primarily to the

historian Some of them belong to the theologian, some to the "educationist," some to the lawyer But the book is philosophical in the sense that its author approaches every problem from the point of view of a man steeped in philosophical conceptions a man possessed by that unifying vision of the world which is the philosopher's distinctive mark

In every historical movement of which he treats Professor Barker seeks to trace the thought which it embodies—to show its place in the whole, its relation to what Hegel would call the "self-actualizing Idea," the "Idea which reflects itself in history " Indeed, we may find proof throughout these pages that the influence of Hegel on Professor Barker's thought has been much greater than the casual reader might infer from a first reading of the book "The vast mass of human volitions, interests, and activities are the means and instruments which the World-Spirit uses to fulfil its purpose " This Hegelian text might have been Professor Barker's motto Few single books show a wider acquaintance than does this volume with the varied interests of mankind. Few writers know better than its author how to think these varied interests into unity

Thus, incidentally, the book serves to correct the misapprehension, still not uncommon, that traditional philosophy has dealt always with a world remote from that of everyday life These essays stand in instructive contrast with another work which appeared almost in the same month, *The Quest for Certainty*, Professor Dewey's Gifford Lectures "The notion," says Professor Dewey, "that the office of knowledge is to uncover the antecedently real, rather than to gain the kind of understanding which is necessary to deal with practical problems as they arise," "has ruled philosophy ever since the time of the Greeks "[1] Apart from the odd antithesis here implied—for surely a knowledge of what the world (or anything else) *is* is not quite irrelevant in deciding how we are to deal with it—it is strange that a writer of Professor Dewey's ability could present the latter part of his sentence as a statement of fact Philosophers have no doubt used language that is not understood "outside the schools " It does not follow that no one "outside the schools" is concerned with the problems which those technical terms are intended to elucidate Indeed, it is only necessary to turn over the pages of the classical writers of philosophy (from Plato downwards, who would have men fix their eyes on the "form of the Good" in order that they may "act wisely in private and public affairs"[2]) to see how untrue it is that philosophy has regarded practical problems as beneath its notice Professor Barker, who holds that "political theory may be independent of the study of history," who recognizes that there are questions of political theory which are "the same yesterday, to-day, and for ever," that we "have to discuss what the State is *semper et ubique*,"[3] affirms none the less that "political philosophy, no less than other forms, must study the busy hum of affairs in the cave before it can move into the upper light of contemplation."[4] Thus Professor Barker puts into close relation with one another such a mundane matter as the "rate of interest"—which "in the new security" of the Empire "sank to one-third of what it had been under the Republic"—and the "religious feelings" which "supported the institution of the Empire and its continuance." He asserts that the Empire was "more than the solution of a problem—it was a salvation." He finds in the poetry of Virgil and Horace "no adulation, but the expression of a feeling as genuine as that of Tennyson for Victoria and the Victorian Age."[5]

[1] *The Quest for Certainty*, p 20.
[2] 517 C.
[3] *Church, State, and Study*, pp 200–201.
[4] P. 194
[5] Pp 14–15.

It is in fact impossible to read this book without being compelled, in the first place, to look at many practical and historical problems in new contexts and with new interest; and, secondly, without acquiring much useful material for the discussion of questions which are philosophical in the narrower sense of that term.

I. In the first essay Professor Barker's conception of history is illustrated by his comments on the change which occurred when "by the end of the third century emperor-worship was passing and the empire was feeling its way towards a new form"[1] "For ten centuries" religion had been an "attribute or dependency of the State." "By the third century . . . the religious motive long spreading westward from its home in the East . . . acquires the dominance" In similar vein Professor Barker remarks that the Sicilians are "good enough philosophers to give the name of the organizing idea" (Mafia) "to the society which it constitutes."[2]

In the essay on Mediæval Civilization the most notable saying, perhaps, is the warning to those "whose wits will persist in going wool-gathering into the Middle Ages to find a comfort which they cannot draw from the golden age of international finance."[3] "An uncritical mediævalism," he tells them, "is the child of ignorance of the Middle Ages." "Sick of vaunting national cultures, we may recur to an age in which they had not been born . . . but we must remember, all the same, that the strength of the Middle Ages was rooted in weakness." "The Middle Ages had not attained a national economy." "A national economy has a higher economic value than a municipal or parochial economy because it means the production of a greater number of utilities at a less cost, and a richer and fuller life of the mind"—a defence at once of Free Trade and of modern culture. There is a truth, no doubt, in the contention of a modern Jesuit that the Middle Ages are not "dark ages" but "bright ages"—days bright with examples of heroism and piety, of artistic and philosophical achievement. To that perpetual clash of rival ideals—of Classicism with Romanticism, Hebraism with Hellenism, Individualism with Socialism, and so forth—which is the distinctive characteristic of modern life, there is in the Middle Ages nothing really similar. The absence of such mental conflicts gave the Middle Ages an ease, spontaneity, and naturalness both in conduct, in thought, and in artistic creation. But this is only one half of the truth. Thus we may give wider application than he himself gives to it to Professor Barker's phrase,[4] "Unity of a sort is easy when there are few factors to be united; it is more difficult, and it is a higher thing, when it is a synthesis of many different elements."

The warning against "uncritical Mediævalism" is the more likely to be taken to heart in the right quarters when it is expressed with the learning, sympathy, and moderation which go with a synthesis as wide as Professor Barker's. His attitude to the Middle Ages may indeed be illustrated indirectly by a remark in which (in a later essay) he brings together two distant epochs—our own and that of Pericles—with both of which the Middle Ages stand in strong contrast. "It is Pericles, and not Bismarck, who is really modern, because it is he who is our nearest spiritual kin." "It is Greece of the fifth century before Christ . . . which is present in the spirit of this age as its analogue and inspiration." "What must primarily be comprehended if we would comprehend ourselves . . . may be what is very far from us in time"[5]

It is thus highly characteristic of Professor Barker's thought that the book gets more and more "thrilling"—no milder word is adequate—as it

[1] P. 32. [2] P. 163. [3] P. 47.
[4] P. 48. [5] P. 223.

approaches our own times;[1] that Chapters V, VI, and VII—Christianity and Nationality, the "Rule of Law," and the Discredited State—are in some ways the best in the whole series

II Of the specifically philosophical problems on which the book throws light one is the problem of Individualism If, against the familiar thesis that morality is essentially social—that man as a moral being cannot even be conceived apart from the social relations in which moral principles are exhibited—someone had the hardihood to maintain that even the solitary on a desert island (who after long isolation had adopted Solipsism as a serious Creed) might still recognize that it was wrong to wallow in sensual imaginations, and better to husband his resources than to waste them, to bear pain courageously than to bewail it, it would seem that both sides to the dispute might draw material from this book Professor Barker describes sympathetically the conception of St Paul, "who held that the Christian Church was a single organic unity—the fulness of him that filleth all in all, fitly joined together and compacted by that which every joint supplieth."[2] Yet it is doubtful whether Professor Barker would affirm—in spite of his recognition of the importance of "the virtues of sympathy as well as of the virtues of solitude"[3]—that apart from social life no rational morality is possible. "Christianity," he says,[4] "did not begin as a Church Our Lord was a teacher of men " "The positive core of Puritanism[5] was insistence on the individual will, and a cultivation of that solitude in which individual will is tempered and hardened " If right will is the best of all rational functions—if "nothing in the world or even out of it can be regarded as unconditionally good except a Good Will only"—then the very highest moral act is an act of the individual. Dean Rashdall used to argue (in opposition to the saying of St Thomas[6] that "the perfection of the Universe is what God chiefly intended in the creation of the world"), that a perfect Universe is inconceivable, since however many moral and rational individuals it contains it might always conceivably contain still *more* such individuals, and therefore any conceivable Universe would be capable of improvement Without agreeing with the Dean that at every conceivable point an addition to the numbers of rational beings must make the Universe better, we may still hold that the organic unity of mankind or the world can only come to its best in its fruition or *recognition*, and that the Universe is only *recognized* as one by the thought of the Individual On this theory it is the individual spectators who confer on the world its highest value

But perhaps Professor Barker's best contribution to philosophic thought is to be found not in single passages which may be quoted but in the book as a whole Reference has been made already to Hegel's *Philosophy of History*. The educated man of our day is inclined to admit the unity of

[1] If the age of Pericles is the "analogue" of our own, a similar comparison may be drawn between the age of Cicero and the Eighteenth Century, or again between the Age of Councils and the Reformation Compared with Plato, the controversial manners of Athanasius and of Luther are barbaric, and about equally barbaric Civilization is thus remarkably similar just before it enters the darkness of the Middle Ages to what it becomes just as it is emerging from it If we represented its course between Pericles' time and our own by a *descending and reascending curve*, this metaphor would express a truth which is not expressed in Hegel's comparison of the progress of civilization with the ages of man (Greek civilization the "youth," Roman the "manhood," Germanic the rich "maturity" of our race) Yet the metaphor of the curve must not be so used as to allow us to forget that we have, as Christians, something in common, not only with Dante and Aquinas, but also with the earliest Franciscans and the author of the *Golden Legend*, which even Plato and Pericles do not share with us.

[2] P 133 [3] P. 115 [4] P. 145.

[5] Pp 114–115. [6] *Summa Theologica*, I 50 3

history. At the same time he doubts here the interpretative value of cold logical categories—One, Many, All (as when the relations of Eastern Despotism, Greek Aristocracy and Democracy, and Germanic Monarchy are explained by reference to the "one," the "some," the "all," who are conscious of freedom under these systems), or again of *Insichseyn* and *Fürsichseyn* (as when Buddhism is defined as the religion of the former). If we ask "How then is the unity of history to be apprehended?" it is natural to answer that a rudimentary apprehension of the unity is already present whenever long periods are seen as a connected story. Whenever we let our minds run rapidly over the events of centuries—whether *e g.* we do this in the disjointed manner in which the author of the *Golden Legend*[1] gives us the history of Europe from the sixth century to the thirteenth, or in the more connected style in which in *Paradiso* (Canto VI)[2] Justinian recounts the history of Roman rule from Æneas to Charlemagne—our interest in such summary treatment implies a perception of some connecting bond. History has become an Epic. In the words of Professor Freeman, "the whole story, from the beginning to our own time, forms one tale." The analogy of the Epic (if it is not a false analogy) suggests that historical knowledge, if it became complete, would have an *a priori* as well as an *a posteriori* aspect; that while such completeness involves on the one hand the activity of sense and memory enjoying and recording the changing scenes, it must require on the other hand an activity of thought like that of the creative artist. For such thought Greece, Rome, the Middle Ages, the Renaissance, are "pages in the book to show" how by a necessity—analogous to the æsthetic necessity which prescribes to a poem its true development—the self-actuating Idea must reflect itself in history. Is this unity, then, real or imaginary? No one can be quite indifferent to the question, and we can all of us in some measure put it to the test. If a reader begins, say, with such a framework or sketch as Professor Freeman provides in some of his smaller books, does the unity of history become clearer or less clear as he advances in knowledge of the details? The analogy of the Epic suggests (whatever answer we give to the question just asked) that Professor Barker's studies in civilization, ancient, mediæval, and modern, may give us the same kind of assistance to the understanding of human history as good Homeric or Shakesperian criticism affords for the wise reading of Homer or Shakespeare. The method which Professor Barker's historical studies suggest to the philosopher is thus in some respects not quite Hegelian. It is perhaps none the less well fitted to enforce the real lesson of Hegel. Professor Barker gives a timely warning against the thoughtless and unselective accumulation of mere detail which is sometimes covered by the word "research."[3] In the handling of detail he is himself an example to every writer of history. Indeed, it is hard to conceive the student, or even the man of general education, who will not reap a rich reward from the study of Professor Barker's pages.

C. J. SHEBBEARE.

The Interpretation of Development and Heredity. A Study in Biological Method. By E. S. RUSSELL, O.B.E., D.Sc. (Oxford: The Clarendon Press. 1930. Pp. 312. Price 15s. net.)

Dr. Russell describes his book as a "study in biological method," but it is much more than this. It is a historical summary of the conceptions that have been held with regard to the nature of the process of organic develop-

[1] Under the heading "History of St. Pelagius." [2] *Paradiso*, VI 34–96. [3] P. 227.

ment, or ontogeny (and it may usefully be supplemented by the reading of a recent book by Professor Cole on *Early Theories of Sexual Generation*, where there is much that is quaint and curious on the matter). Dr. Russell's book is also critical, but constructive too, when he works out his organismal conception of development, and it is a well-balanced and judicial survey of what he calls a major problem in biology

There have always been two contrasted attitudes with regard to the nature of the process whereby the ovum, or other germinal unit, becomes the fully developed organism In the past, and at present, many biologists have seen in the ovum, or spermatozoon, something that contained, in miniature, or latent, or potentially, or *involved*, that which *evolved* into the specific animal body This was the notion of "preformation" Others have believed that in the ontogeny there was something that was not in the germ, that grew up upon the germ. This was the notion of "epigenesis" But since two ova of related species A and B develop into the animals A and B, even though those ova are habitant in precisely the same physical environment, it appears that specifically different reasons inhere in the ova why they become A and B Therefore there is, if not an actual preformation of the adult structures, at least an involution of those structures. The "external factors" of the environment do not evoke those structures in their specificities What then is the developmental agency that we appear to be obliged to postulate? In his valuable chapter on the "Misuse of Abstraction" Dr. Russell traces out the growths of the attitudes taken by embryologists with regard to this problem. Workers on the physiological side may study the effect of temperature, of the chemistry of the nutritive medium, of operative interference with the embryo, etc, and it has thus happened that they have extended the notions of their methods to their conceptions of the agency. Therefore we have the physical-chemical hypotheses of development, or, comparing the process with the acquirement and establishment of a habit by an animal, a psychical or mnemic hypothesis has been the result. Or, again, by extending the scope of the morphological method of biology to visible and invisible structural units within the germ-cell nucleus, we have the modern, "particulate" conception that comes from the study of genetics These are examples of current ontogenetic hypotheses, and of the misuse of the method of abstraction.

Dr. Russell's "organismal" view may be summarized The ovum about to develop is an organism; the developing embryo is a creature that assimilates and which may be irritable, mobile, predatory, and reproductive—it is all that an organism (in the ordinary sense) may be, it is a functional unity, and this unity is expressed in the activities of maintenance, growth, and reproduction; in it the functional activities are influenced by the past—by the ancestral experience; in it the functional activities cannot be understood (and certainly cannot be described) without reference to the future, or end, of the developmental process, it is not a sum of parts, for the parts must be integrated—just as erroneously should we call a multitude of minute straight lines laid together, end by end, in a certain way, a curve, for that which generates the curve is a mathematical function; the organism endures, in Bergson's sense; it is something dynamic, and not static (as suggested in the "stages" of the embryologist).

The most striking thing about a developmental process is its *tectonic activity*. The embryo assimilates nutritive materials, and may behave as if it had perceptions, and it reproduces cells. But *it assembles those cells* as the specific organ-rudiments, and it differentiates, or shapes, them as tissue-elements—bone-cells, muscle-cells, nerve-cells, etc. This is what particularly

interests us in an embryogeny. What is the assembling agency? We have the clearest and most immediate intuition of its nature in our own minds as artisans, writers, painters, composers, etc. This psycho-biological conception of development has been called "anthropomorphic," and it is suspect by the physiology of our time. Why it should be suspect is a curious study, and that the naïve notions of a "material basis of inheritance," of "carriers of hereditary qualities," or of "organ-forming substances," should still persist and be regarded as orthodox, marks an extraordinary phase in biology.

Over and over again this "anthropomorphic" view of the developmental process has recurred. We find it clearly expressed by Oken (in 1805). The ovum is an entire animal in idea and design only, but not in structure. In it the animal resides as an impalpable spectre, and not as a corporeal miniature. The ovum is related to the animal which it becomes *as the thought is to the word*. A similar view was formulated by Driesch (although Dr. Russell thinks that he spoiled it by the application of the Aristotelian conception of a morphogenetic entelechy). It was the view taken by Samuel Butler and Hering, and (with a physical extension) by Semon. Clearly the notion has persistence, so that biologists have been driven to it again and again in spite of the success of the methods of experimental embryology, and clearly because of the enormous difficulties of purely physical hypotheses. For such physical and chemical notions always include the conception of increasing randomness. If there are chemical physical processes that go on *of themselves*, each successive phase of the process must be represented by an assemblage of parts that is more random than the last one. Only when physical-chemical processes *are coupled* may this law of increasing randomness be reversed; but if there are coupled processes in a developmental career, then it is the coupling agency that has to be explained. In an embryogeny the physical-chemical system assumes, in a regular succession, a series of highly specific configurations, with increase of available energy and entropy decrease, and it is quite conceivable that all this may happen, of itself, at random, and without any coupling agencies that are external to the system. But the improbability of all this is incredibly great. Let us suppose that the stones, bricks, mortar, etc., that are the materials necessary for the construction of a house be dumped, at random, upon the ground where the house is to stand, and suppose that, of themselves, these materials fell together in the form of the house.

The improbability of such a "fortuitous concourse" of materials would be comparable with that of the embryogeny that would occur purely by physico-chemical processes. Such an improbability is incredibly small (it has been found to be of the same order of magnitude as that of all the houses in London catching fire independently of each other, or "by accident," on the same day, or of all the inhabitants of London committing suicide, also independently of each other). Improbable events like these are therefore to be compared with our experience that millions of developmental processes are being completed in every minute fraction of a second. Surely the conclusion is an obvious one—that a developmental process does not occur at random. And, returning to the analogy of a building operation, it is quite conceivable that observers on, say, the moon might be puzzled how to describe the agencies involved in a great building and might not deduce organismal ones Yet we know that mentality is the assembling agency concerned.

In considering development, most of the other great problems of biology are implied. Heredity simply means that the developmental process by which an ovum became the parent is similar to the process by which the egg borne by the parent becomes the offspring. Modern genetics simply studies minute (and often trivial, or pathological) differences in the developmental process

of the germ-cells reproduced by organisms that conjugate sexually. Evolution means that the developmental process may be a little different in the egg borne by the parent from the process in the egg borne by the offspring. And so on Wherever biology has speculative interest, and in all those fields where it makes strong appeal to the non-technical reader, the problems of organic development are implied To such readers Dr Russell's book will be as a "feast of richness," not only because of its materials, but also from its critical-constructive discussions, and because of its methodological interest Biology is still a young and naïve science, for the wealth of its data far surpasses that of the physical sciences (or at least of the science that considers only the things that we call inorganic). These data are still woefully incomplete, and while this is so biology may remain largely intuitional in its methods. But books such as this one (and Dr. Woodger's *Biological Principles*) make a good beginning in the construction of a logic of biology. From this point of view alone Dr. Russell's book is strongly to be commended.

JAS JOHNSTONE.

Creative Mind. By C SPEARMAN, Ph D , LL D., F R S (London: Nisbet & Co , Ltd ; Cambridge. The University Press 1930 Pp. xii + 153. Price 5s net)

This volume is the first of a new series entitled "The Contemporary Library of Psychology," to be published under the editorship of Dr F. Aveling The series is described as being planned "with a view to presenting the problems of Psychology in a popular way, but at the same time without any loss of scientific accuracy " If the work under review may be taken as representative of the standard to be maintained, it is evident that the editor and his Advisory Board have a solid respect for the general reader The popular appeal has not entailed writing down, for while Professor Spearman has done much to make his little book attractive, it is by no means light reading, and being a development rather than a re-statement of his distinctive theories of mental process, it should fulfil the editor's aim in being of service to students and general reader alike. The book is copiously illustrated by reproductions (small but clear) of well-known pictures, and is in all respects admirably produced. The series should meet with a warm welcome

Professor Spearman brings his noegenetic principles to bear upon the psychological problems presented by creative activity in the arts, in behaviour, and in science and philosophy The territory surveyed is too extensive to be adequately explored in a book of this size, and it would have been better had the author limited himself to the topics of the earlier chapters in order to develop his thesis more thoroughly. In particular, we could have dispensed with the chapter headed "Behaviour" (though actually dealing with certain tests of reasoning).

The argument is most adequately presented in the chapters on pictorial art. Its outcome is that "the final act in creativity must be assigned to the third noegenetic process; that of displacing a relation from the ideas which were its original fundaments to another idea, and thereby generating the further idea which is correlative to the last named, and which may be entirely novel" (p 77). The other cognitive principles, quantitative as well as qualitative, together with emotion, though no less essential to the process of artistic creation, are subordinate to that which creates the material of the work of art. We would suggest here that the quantitative principles are the basis of selective criticism of the material provided by the eduction of correlates,

and not in themselves creative. For while the principles of retentivity, which produces "facility for repetition of the same thing" (p. 45), offers an explanation of the satisfaction which the observer finds in repeated details, it cannot well account for the act by which they were produced. It explains *why* the artist painted them, but not *how* he came to repeat just those details just that number of times. In the "Birth of Venus" we notice "the delightful repetitions in the ribs of the shell, in the ripples of the sea, . . . and the folds of the drapery." But there is no proof that Botticelli was under the necessity of painting ripples until the contrary principle of fatigue operated to bring them to an end, so that on another day, when less susceptible to fatigue, he might have given us still more. If we remember that the artist is throughout both creator and critical observer, the sphere of the quantitative principles can be distinguished from that of the more truly creative qualitative ones.

This small book has substantial importance if regarded as a test of the theory stated in "The Nature of Intelligence and the Principles of Cognition." If the validity of the noegenetic principles be accepted, then it may be admitted that the details of a work of art are explicable as instances of correlate eduction; but many will question whether Professor Spearman's argument accounts for the composition as a whole. Quoting the principle that the quantity of mental output must be regarded as constant, he says: "And this first quantitative law of psychology does at once prove to be that of art also; it is that which bids the artist to eliminate everything irrelevant to his aim. . . . For since the total output of energy is obliged to be constant, every expenditure of it irrelevant to the aim must leave so much the less to promote this" (p. 41). But what is this aim, and how is it psychologically determined? To say that the artist aims at the creation of beauty would be inadequate, for the aim is a specific embodiment of beauty. But this initial conception, however fragmentary and schematic, is surely the most significant creative act in the whole process, to which all that follows is subordinate. To demand a psychological analysis of that act is doubtless improper when considering a book of this scope, but any account of the process of artistic creation must take note of that first moment. Possibly this, too, falls under the eductive principles, but we cannot see that Professor Spearman has made it clear. Without this artistic intention there is no determinate direction to the play of eduction. Since any fundament has many correlates of a given category, some selection must be made even before conscious criticism plays a part. By itself eduction might produce a picture, but it is always *this* picture which needs explanation. We can account on these lines for the construction of a composition from an arbitrary starting-point, or for filling in a sketch, but it does not account for the existence of that sketch, nor for the purposeful striving of the artist to achieve his aim.

After the fuller treatment of this section the writer is justified in treating the other arts more summarily, though readers will hope for a more thorough treatment at a later date. Readers of this *Journal* will wish that space had permitted him to develop Chapter XI, where in eight short pages he teases the metaphysician with references to the bucket "in which Kant so cleverly stood and lifted himself up by the handles; the empty hat out of which Hegel handed rabbit after rabbit."

Professor Spearman's book is at once a significant contribution to the study of the more complex mental process and a valuable supplement to his earlier works, while many will find in it an attractive introduction to the more austere argument of *The Nature of Intelligence*.

A. W. WOLTERS.

Belief Unbound, a Promethean Religion for the Modern World. By WILLIAM POPPERELL MONTAGUE, Professor of Philosophy, Columbia University (New Haven: Yale University Press; London Humphrey Milford, Oxford University Press. 1930. Pp. 98. Price $1 50, 7s)

This volume consists of three lectures, delivered in the Dwight Hannigton Terry Foundation, the first of which discusses The Modern Challenge to the Old Religion; the second advocates A Sanctionless Morality, and the third develops the conception of God Finite and God Infinite Rejecting all Modernism, which seeks to restate Christianity in terms of modern thought, the author demands "a revolutionary recantation of religion and a radical reinterpretation of the supernatural and of its relation to us" (p 2). He begins the game by loading the dice Instead of criticizing Christainity at its best, he caricatures it at its worst It is to be hoped that so unlovely a type is not prevalent in America, and that prejudice has painted the portrait that he gives. "The phases of Christianity that appear most repugnant to the modern temper are, first its methodology of Authoritarianism, second, its ethics of Asceticism and Other-Worldliness, third, its metaphysics of Supernaturalism" (p 8). As regards the indictment of Christianity, he defines his own position in the words. "As regards the methodological and ethical indictments, we were in accord with the critics and their destructive conclusions, but with the attack on supernaturalism we were in only partial agreement" (pp 26–27) Rejecting Christianity, the author holds to a kind of theism of his own. This treatment of the Old Religion in this first lecture shows so little philosophical impartiality that he makes it more difficult to approach his own solution without prejudice, but we must try to do so.

The second lecture is distinctly an improvement on the first. He recognizes in man the sentiment of approval of some and disapproval of other actions As in the conduct of the dog we may detect three motives, *self-interest*, *sympathy*, and *suggestibility*, so in human conscience, but "it is undoubtedly infinitely more extensive in each of its three aspects than in the brute" (pp. 37–38) Of these three potentialities, "it is not good that the third factor, suggestibility, should be the most important, for it alone is purely provisional, secondary, and instrumental to the other two" (p 40) For "to replace these causeless or categorical imperatives by hypothetical imperatives, where the feeling of what is right is justified by the knowledge that what is good will ensue, is the primary task for ethical theory, and also the prerequisite for a sound and progressive morality" (p. 42). Nevertheless, "the recognition of the *de facto* conscience must not wait upon its *de jure* authentication, desirable though that may be, for, in the case of duty, *esse est percipi* It is here that the traditional utilitarians have been wrong, and the intuitionists and rigorists have been right" (p 43). What then is duty? "Interest in perfecting one's life and the life of others by quickening and intensifying existing potentialities, extending their number and scope, organizing them so that their conflicts will be harmonized, and then mobilizing all the energies of will and intellect to bring them to actuality, and thus add cubits to the stature of our being; that, as I see it, is the whole field of duty" (p 45). In this egoism and altruism can be harmonized, for the self which takes an interest in other selves, becomes greater in itself. To the question, "Is it not always possible for us to make ourselves over and to change our existing nature and its desires?" (p 51), he gives an emphatic affirmative answer. Agreeing with James regarding man's spontaneity, he does not "agree with him when he goes on to reduce all voluntary effort to attention. There is a great deal of truth in the ideomotor theory, but it does not explain all conscious action. A prospective act can be at the focus if attention without being willed, and it can be willed without being at the focus of attention" (p. 54). But must

not the prospective act be displaced from the focus of it is not to be willed, and must it not be replaced at the focus by the act which is willed? Is not volition primarily direction of the attention? A consequence of the view of duty here taken is "the Relativity of Good and the Invariance of Virtue" (p. 55). The Good is abundant life. "The ideal of a maximum life emerges as the internal and autonomous absolute that replaces the external and heteronymous standards that we have rejected. Life seeks its own maximum, and the *summum bonum*, or supreme regulative criterion for values, is maximum abundance of life" (p. 57). "Life as thus conceived prescribes its own invariants, two absolute virtues that shine steadily down upon the flux of changing goods. They are invariants because they mark the road of maximum variation. These two virtues are Love and Enthusiasm" (p. 58). While Buddha and Christ are quoted as "the highest earthly exemplars of this ideal of love," the author betrays either his ignorance of the teaching of Jesus, or his prejudice against Christianity, when he adds: "In Buddha one finds the more universal sympathy, extending as it does to brute as well as to human life"; for even if Jesus did not give specific instructions on the treatment of animals, do not His references to God's care for the flowers of the field and the birds of the air, God's knowledge of the fall of every sparrow, the Shepherd's grief at the loss of the one sheep, as an analogy of God's love for every sinner; the lifting of the ox or the ass out of the pit on a Sabbath day, imply that universal sympathy? His advocacy of enthusiasm is carried too far, and expressed recklessly, and his attack on temperance is intemperate. One of the minor evils of Prohibition in America seems to be that philosophers deteriorate morally in depreciating self-restraint as a necessary element in morals. But even this philosopher is not quite consistent, for he concedes that "we should use temperance in our sins and sorrows" (p. 62). The morality here advocated is to be *autonomous*. "It is my thesis that true *morality is without sanction*, for sanctions are external justifications for righteousness and apologies for the good" (p. 63). Accordingly "religion as the foundation of morality should be abandoned, as indeed it is being abandoned" (pp. 64–65). Religion as a sanction external to morality may certainly be abandoned. But if the belief in God as moral perfection, and of the Universe as not against, but with morality gives a wider horizon, a firmer assurance, a larger prospect, a deeper motive, as the Christian moralist contends, can morality be divorced from religion? If in any sense there be God, as the next lecture tries to show, must not morality take Him into account? Is there no duty to Him?

The third lecture offers a substitute for the God of the old religion. From the autonomy of morality some thinkers have concluded that religion is no longer necessary; but not so the author. "It is this yearning for the infinite and the sense of desolation attending the prospect of its frustration that constitutes the motive to seek religion and to make wistful and diligent inquiry as to the possibility of its truth" (p. 67). The problem is this: "How can the amount of evil and purposelessness in the world be compatible with the existence of a God? How can the amount of goodness and purposefulness in the world be compatible with the non-existence of a God?" (p. 68). Dealing with the problem of Evil on the same lines as J. S. Mill, and giving less than two pages to the consideration, the author confidently reaches the conclusion that "there can exist no omnipotent God" (p. 70.) The solution of the Problem of Good is found in a telelogical as opposed to a mechanical interpretation of the Universe. "The kind of causality that we know best, . . . the causality that operates in our lives and minds, is not an alien accident, but an essential ingredient of the world that spawns us" (p. 73). Combining the conclusions of the two arguments, "we are confronted with a God, or something very like

a God, that exists, not as an omnipotent monarch, a giver of laws and punishments, but as an ascending force, a nisus, a thrust toward concentration, organization, and life. This power appears to labour slowly and under difficulties. We can liken it to a yeast that, through the æons, pervades the chaos of matter and slowly leavens it with spirit" (p 74). The author cannot stop here, however, and is compelled to ask "Are we then forced to conclude that the finite God, which solved for us the Problem of Good, requires as correlate the infinite God of religious tradition, who seemed to be precluded by the Problem of Evil?" (pp 74–75). An argument too closely knit to be reproduced in the Relation of Mind and Matter leads to the conclusion that "*the potentiality of being is the sentience of being*, and that as potentiality is ubiquitous and omnipresent, so therefore is consciousness" (p 82) The author accepts the conception of a cosmic mind, and that mind is personal For "personality is mind become substantive and autonomous, mind become spirit If the universe has a mind, that mind would be more rather than less personal than ours, for it would have more rather than less of unity and organicity" (p 83) As "a person must have an environment," God has the world, "that in God which is not God" as his "internal environment" The relation of "the unitary and personal yet infinite cosmic consciousness" to "the finite God that is the cosmic nisus" is that of "mind to will." "The purpose and value sought by the Great Life is that of the lesser lives within; no fixed *telos* or *end*, but a maximum increase of life itself" (p. 84) The religion corresponding to this new theology must meet "the New Worldliness," humanity sufficient unto itself, satisfied in itself; having no place for and no need of God or heaven Promethean Religion must take the place of the traditional. This religion will be based on "the two great truths, supremacy of the ideal and the power of free intelligence" It will find the cosmic God, not in Zeus, or Jehovah, but in the spirit of Prometheus, "the Hellenic symbol of what Christians name the Holy Ghost." "Religious experience at its highest and deepest would be the contact which mortal men might have with immortal spirit, the Holy Spirit of God" (p 91) But even if this is possible, does humanity, self-sufficient and self-satisfied, need it? Many do not feel their need of it at all. At this point one deplorable lapse of taste must be referred to. "There is the story of one who was welcomed to a wedding feast and who turned water into wine, but that story has been put on the Puritan Index, and to refer to it at a Dry dinner would be the height of bad form" (p. 94). This author, however, rather surprises us by a plea for such contact Man is so constituted that "for better or worse there is associated with this finitude a longing for the infinite Though finite, man needs the infinite to complete and unify his own being" (p 95). As there is a chance at least that there is such a cosmic mind, "there is a chance, however small, that a union with the holy spirit of this Promethean God will be attained, and that by such union one's world will be made radiant, and one's life become a high romance" (p 98). If man in his religion needs this completion, does he not need it in his morality also? To offer a few words of estimate in conclusion. It is only in America, with its disregard of history, its self-confidence, its tendency to exaggeration in either the positive or the negative direction in religion and morals, that such a book could have been written The author has more knowledge than judgment, more enthusiasm than wisdom, more arrogance than reverence, more cleverness than insight. He is not likely to prove himself "the prophet of a new dispensation," and his Promethean Religion will not displace the older religions by which men have lived.

ALFRED E. GARVIE.

Il misticismo speculativo di Maestro Eckhart nei suoi rapporti storici. By G. DELLA VOLPE. (Bologna: Licinio Cappelli. 1930. Pp. vii + 291. Lire 20.)

Meister Eckhart (1260–1327) is one of those prominent figures whose prominence is not quite secure. For many philosophers he is too religious; for many of the religious he is too rationalistic. The orthodox know him as a proscribed heretic; and those to whom a heretic is a hero cannot be assured that Eckhart's behaviour before his judges was heroic. Some authorities make him the father of German idealism, another strips away all his titles except that of having Germanized and so popularized the terminology of the Scholastic philosophy. Turning from opinions to facts, we are forced to allow him at least historical importance. Tauler and Seuse (Suso), and probably Ruysbroeck as well, proceeded directly from him; the Brethren of the Free Life invoked his name, though not with perfect justification; and Luther, through the anonymous *Theologia Germanica*, which is Eckhartian in doctrine, drew from him some of the most distinctive ideas of his own protestantism. But these facts belong to the history of religious thought: dispute arises when we try to assign to Eckhart his precise place in the history of philosophy. That he has some place in it is indisputable. (1) He certainly passed through the highest philosophical discipline the Schools could offer, and an undoubted philosopher of later date, Nicholas of Cusa, acknowledges debt to him. (2) The student of mediæval thought cannot sharply separate the religious and the philosophical. (3) Mysticism, especially when expounded by someone aware of philosophical exigencies, falls within the sphere of the philosopher's interest. In any case Eckhart appears, as a product and as a factor, in the dissolution of mediæval Scholasticism. How much a product and how much a factor is the question that has not yet been settled.

A new study of Eckhart is consequently to be welcomed. It is to be welcomed for the further reason that recent scholarship has cast serious doubts on the authenticity of many of the works attributed to him. The Latin works stand firm. It is the German sermons and tracts in the unreliable text edited by Pfeiffer (*Deutsche Mystiker des 14 Jahrhunderts*, Vol. II, 1857) that are placed under suspicion—*e.g.* of the 110 sermons and 18 tracts given by Pfeiffer, only about 30 of the former and one of the latter are now generally accepted. Many are at best transcripts given by hearers. Signor della Volpe, without pursuing the question, gives a full bibliography of it on p. 112 (students without Italian may turn to Ueberweg's *Grundriss*, Zweiter Teil, 11 Auflage, pp. 553 and 779), and bases his study on the accepted residuum. From this residuum he gives liberal quotations in footnotes, and thereby supplies his reader with considerable first-hand material. It is extremely useful to have the 28 articles of the Bull of condemnation of 1329 (pp. 106 ff.) The author's interest being historical rather than evaluative, antecedents are emphasized. The first five chapters are devoted to the mystical line that runs from Plotinus through the pseudo-Dionysius to St. Bonaventura. The exposition here has the defect of not being sufficiently subordinated to the main purpose of the book: it becomes an episodic history of mystical philosophies rather than a selection and linking together of so much of the earlier thought as had an extrinsic connection or an intrinsic affinity with the thought of Eckhart.

Four chapters deal with Eckhart himself. They constitute a very careful and well-ordered statement of his ideas. S. della Volpe finds in them an interesting contradiction, interesting because it seems to be necessitated and to a certain extent justifiable. For Eckhart the mystical experience culminates in a union of the creature with the Creator so complete that all distinction between them is cancelled, which amounts to a divinization of

man (This ideal is either the ground or the corollary of his metaphysical doctrine of immanentism, that God is in all and is all) And yet, when he treats of ethics, he preaches a doctrine of complete humiliation, of the worthlessness of human values. In calling this a paradox, S. della Volpe names it rightly. But I cannot be sure that he is right in dwelling on it or in regarding it as peculiar to Eckhart It is *only* a paradox, and something very like it is found in most mystics, even in so rational and sober a mystic as Spinoza. In Eckhart, as in Spinoza, only the All is real all finitude is, in its finitude, unreal The finite spirit acquires reality, becomes divine, only when it loses its finitude A pantheistic metaphysic of this kind, therefore, does not divinize the individual indeed, it makes such divinization impossible Consequently, it is compatible with (though not of itself involving) the disparagement of all values that belong to us as finite

I should hesitate to follow the author's claim that Eckhart was the first really independent mystic of the Middle Ages His words are "The mystical ethic of Eckhart is little less than revolutionary, it is the first great assertion of the religious sentiment divested of all externality and affirming itself as *pure and absolute internality and as spiritual autonomy. . . The fundamental* difference between him and the mystics who preceded him is that in his wholly concentrated passion for God he did in fact transgress that boundary between God and the creature which the other mystics had upheld, though at times their language seems to go beyond their intentions" To accept at their face-value the extremer statements of Eckhart while discounting the equally extreme statements of other mystics is a procedure that requires explicit defence. That the others escaped condemnation is no proof that they were at heart more orthodox, but perhaps only that they held their heresies with charity, so making them innocuous If the full tale of ecclesiastical censure were told we might find that it was provoked more by pride, affront, and so on, than by opinions Bruno broke his monastic vows, and Luther insulted his canonical superior. I am not sure that we know enough about Eckhart's personality to say how much his condemnation was due to his doctrines alone.

But these are minor criticisms. I have a secret sympathy with the author's contention that *Eckhart's subsequent influence operated much more on the* practical than on the intellectual side of mysticism—from which I should draw the conclusion that he is not so important in the history of philosophy as he is usually represented to be. The "dissolution of scholasticism" is not an isolable dramatic moment precipitated by one or two philosophers, but simply one phase among several of a slow cultural change, in which, as at all periods, each phase was sensitive to the rest, so that its course was determined by them and their conditions as well as by its own antecedents.

T. E JESSOP.

Yoga Philosophy in Relation to Other Systems of Indian Thought. By S. N. DAS GUPTA, M A., Ph.D (Cal.), Ph.D (Cantab.), I E.S (Published by the University of Calcutta. 1930 Pp. x + 360)

The author is so well known to English readers since the publication of the earlier volumes of his *History of Indian Philosophy, that he needs no* introduction here. He has, moreover, in particular, specialized in both the Sāmkhya and Yoga systems. This is a happy choice because, though European scholars have done something towards the opening up of the Vedānta and Sāmkhya systems to the Occident, yet, as Professor Lanman once said, the

history of Yoga, both as a theoretic system and body of practices, had still to be written. This fact, however, is by no means so strange as he thought. The author has made the subject his own, and besides the present work has published *A Study of Patanjali* in 1920, and a work entitled *Yoga, its Philosophy and Religion*, in 1924. In an estimation of the present book, it is to be remembered that the manuscript was ready several years before the author's *History of Indian Philosophy* was composed.

As the author observes, throughout all the epochs of Indian culture we find the highest reverence paid to the Yogins, who were believed to know the truth beyond the ken of ordinary vision, and also to wield wonderful powers, not only over their own but over other minds, as also over external objects. In the West, too, the most outstanding figures in India are, in the popular judgment, elephants, jewelled Mahārājas, and wonder-working Yogins. "Can you produce a Yogi?" is in the writer's experience a common request of the sight-seeing Western traveller to his English host.

It is true, as Professor Lanman has observed, that little has been said of Yoga practices. This is due to lack of understanding of the subject-matter. The system embodies a code of practices by which it is claimed that the truth taught can be verified. Such verification, it is affirmed, is as veritable as ordinary sense perception. As regards occult powers (*siddhi*), it is only in comparatively recent times that metapsychical phenomena have come to be generally discussed, and in part understood. Even the author, who shows a commendable desire to give a fair and unprejudiced account of the system and to defend it against prejudiced attack, yet says (p. 5) that he has himself kept close to the rational parts of the system, without particularly stressing the experimental portion, because, though some of the phenomena of which Yoga speaks have been verified in some quarters, in modern times, yet other phenomena described in Yoga are, he thinks (to quote his words), "of so mysterious a nature that people are rightly sceptical until they can be verified by the testimony of our own times." Formerly these occult practices were considered unworthy of discussion, and were explained on the grounds of credulity and fraud. But as all systems of Indian philosophy are in unanimous agreement as to the worth of Yoga experience, which, as regards several matters, is receiving some support in the West, the author adopts the standpoint that whilst we should neither uncritically accept the facts of Yoga experience, neither should we unceremoniously dismiss them as being altogether untrustworthy. In any case there is now no ground for timidity in discussing them. The question is one of proof. What is wanted is, to use the language of a recent work (Raul Montandon, *Les Radiations Humaines*), an experimental demonstration of the existence of the subtle bodies of man, such as we find in the work of the late Dr. Gustave Geley, and others.

It will be readily seen that the subject demands more than a linguistic or philosophical endowment, however great. The author himself cites the verse which says that "Yoga is itself the teacher for those who take to Yoga." It is possible, however, to deal, as the author has done in the main, with one side, the theoretic, with, however, an occasional glance towards the occult practices of Yoga. Thus he points out that if the assumption of Yoga is proved, that the individual mind (*Kārya Buddhi*) is a part of and in contact with a larger psychical whole (*Kārana Buddhi*), it would account for many unexplained facts of abnormal psychology, as also of telepathy and other kindred psychical phenomena. The author says that it is gratifying for an Indian to notice that the controversies of the scientific world have been steadily approaching in a direction which, so far at least as the general scheme is concerned, is familiar to the student of Yoga philosophy. This

statement is the more interesting and authoritative as it is the result of a consideration of his subject from quite an objective standpoint

As regards historical origins, the author's view is that the systems which now pass by the names of Sāmkhya and Yoga respectively derive from a common stock, the difference being that the atheistic Sāmkhya stresses the theoretic and the Theistic Sāmkhya the practical side of the common teaching. Besides practice in the Patanjali method, Yoga developed on "Tantric" lines as the cult of the physical, both gross and subtle (*Hatha Yoga*), in the form called *Mantra Yoga*, and in the celebrated method which produces the particular ecstasy of *Kundalinī Yoga* The Professor gives valuable testimony to the strength of these "Tantric" influences, but omits to deal further with the matter because, in his view, these "Tantric" elements "have little philosophic importance" (pp. 50, 51). There may have been some grounds in this case for this manner of dealing with the subject, but in the reviewer's opinion *Sādhanā* and *Yoga* have the philosophic importance of the doctrinal systems of which they are the practical expression For instance, the *Bhūtashuddhi* rite involves the adoption of the Sānkhyan evolution from the Psychophysical, Potential, or *Prakriti*, which, however, in the non-dualistic systems is not a Principle of Unconsciousness as in Sānkhya-Yoga, but the power (*Shakti*) of Consciousness (*Chit*) worshipped as the Mother of the Universe.

Chapters II and III are of value. Chapter II should be read with Chapter I, and Chapter III with Chapter IV. The theory of the *Gunas*, or Factors, of *Prakriti* is a very leading part of the system, which may be concisely summarized by saying that *vis-à-vis* the *Purusha* or Consciousness, they state the functions of unconscious *Prakriti* as Presentation of Consciousness, Veiling of Consciousness, and the Activity which makes one or other of the first two functions predominate the one over the other

Chapter V treats of the theory of Soul, which latter term is not so suitable as the word "Spirit," which the Author sometimes uses, because mind is alien to the nature of the *Purusha* or Spirit as it is in itself Chapter VI deals with Yoga Cosmology, and Chapter VII with Yoga physics. In Chapter VIII the author well explains the meaning of Sāmkhya Atheism and Yoga Theism. We may here observe that belief in a "Personal God" (to use a current expression) is no part of the common *Dharma* of the Buddhist, Jaina, or Brahmanical systems. There has always been some amount of Atheism in India, but, as the author points out, the Atheism of East and West differ, the latter having not been able to go much beyond materialism, sometimes of a crude kind Chapter IX deals with the Yoga psychology.

These latter chapters may prove difficult reading for the unversed reader, as the author deals with what he calls "the metaphysical fictions" over which the commentators quarrel To understand these and other matters it is necessary that the principal doctrines should be set forth in stronger relief from the details accompanying them Modern Indian writers are too apt to assume that because a matter is clear to them, it must be so to the Western reader. Thus some of these latter consider that to speak of "Unconscious Mind" is a contradiction in terms, though acceptance is now becoming more and more common of the term "unconscious mental process." But neither in Sāmkhya-Yoga nor in Vedānta is there any contradiction, for each of these systems distinguishes between Mind, which, as it is in itself, is Unconscious and Consciousness which illuminates its operations.

The question of freewill and determination is so often neglected that I looked to the Index to see whether the author had anything to say on the matter. The Index is silent, but the author refers to the subject in pp. 318–321.

It is not generally understood that *Vedānta* (leaving aside the Māyāvādin's *Māyā*) is a common-sense philosophy, which, as such, posits an abiding self, a world of change which is, as it appears, man's freewill, and responsibility. There is also no doctrine more widely nor more firmly held in India than the doctrine of *Karma*, which, the author says, "stands as the principle of determinism." He finds a difficulty in reconciling freewill with *Karma*, and appears to hold the opinion that we must make our election for one or the other, though Hinduism holds to both. The question is of such importance that we would have welcomed a more extended treatment of it.

In the event of another edition being printed we would suggest that all the Sanskrit terms and quotations should be translated, and thus make the work more useful by attracting a wider circle of readers.

All that the author has to say on his subject-matter is of both interest and value, coming as it does from one who has made a special study of the Sāmkhya and Yoga systems, and who is well equipped by his general philosophical and Sanskritic knowledge to express an opinion as to what these systems mean.

JOHN WOODROFFE.

John Dewey, the Man and His Philosophy. Addresses Delivered in New York in Celebration of His Seventieth Birthday. (Cambridge, U.S.A.: Harvard University Press. London: Oxford University Press, Humphrey Milford. 1930. Pp. vii + 181. Price, 10s. 6d.)

As the sub-title indicates, this is a composite volume containing addresses delivered by various speakers on a public occasion, apparently printed much as they were delivered. (There is even a section entitled *The Toastmaster's Words*.) Only three of the seven main contributions are directly concerned with Professor Dewey's philosophy; the bulk of the book is devoted to his influence as an educational reformer. It is, however, interesting to learn that his educational theory is a direct consequence of his theory of knowledge, viz., that "knowing" means the same as "'knowing how to do." This doctrine, it seems, has not only revolutionized American education, but has overflowed into China, Mexico, and even Turkey; and we are assured that it will be Europe's turn very soon.

Professor George H. Mead speaks on *The Philosophies of Royce, James, and Dewey in Their American Setting*, and contends that Mr. Dewey has provided us with the first really native American philosophy. (His predecessors had all been "nostalgic" exponents of an alien tradition, from which even James had not fully broken away.) Indeed, we are told that Mr. Dewey has produced nothing less than "the philosophy of American practicality." If this is what he has really done—and it seems not unlikely—it is clearly the duty of all intelligent Europeans to study his doctrines more carefully than has been hitherto usual, at any rate in this country; even if they are false, they must obviously be important. Professor Herbert W. Schneider discusses *The Prospects of Empirical Philosophy*, and appends a pleasing if somewhat lengthy myth about Pan and Logos, and their respective contributions to Mr. Dewey's mental equipment. But it is a pity that he suffers from a sort of persecution-mania with regard to the pre-Deweyan and non-empirical philosophers. We can hardly believe that they were really as stupid and as tyrannical as all that. Mr. James Harvey Robinson's contribution on *John Dewey and Liberal Thought* is somewhat more philosophical and less *kultur-geschichtlich*, but not very novel. He urges us to do away with substances and replace them by events, and to substitute verbs for nouns wherever possible, *e.g.* "minding"

for "mind" (and "mattering" for "matter"?), and promises that if we do many traditional problems will disappear, particularly all those concerned with the relations between minds and physical objects.

The last nine pages of the book contain Professor Dewey's *Response*, which, as we should expect, is both wise and felicitous It is interesting to find that he at least has his doubts about that "American practicality" of which he is supposed to be the philosophical exponent, and expects that his countrymen will one day get tired of being practical and turn to something else

H. H PRICE.

The Monadology of Leibniz By PROFESSOR H WILDON CARR (London The Favil Press, 1930. Pp ix + 213 Price 10s net)

We have here a commentator who is thoroughly in sympathy with the general philosophical views of the author whom he studies Professor Wildon Carr has for long devoted his remarkable energies to the defence of a modern monadology, and, though his own views have been also profoundly influenced by modern idealism and recent scientific theories, they seem to owe even more to the influence of Leibniz himself, and he will no doubt succeed in bringing *home to many readers Leibniz's striking and well-thought-out conception of* the universe as a harmonious system of genuine individuals, and in encouraging them to study him more deeply themselves The book indeed is not of a very ambitious type It is rather of the nature of an introduction for students than of an original contribution to scholarship and thought, and as a study of Leibniz could not bear comparison with the work of Professor Latta. Hence a reviewer may perhaps be justified in passing it over rather more briefly than its author's reputation would seem to warrant, especially as from the nature of the case it would be impossible satisfactorily to discuss it without a detailed study of the philosophy of Leibniz, for which space would obviously be inadequate. It is only fair to add that Professor Wildon Carr has also produced a work which claims to give an account of Leibniz's life and philosophy as a whole (*Leibniz*, Benn, 1929)

*The present work consists of a brief introduction, a translation of the Mona*dology, with very copious, though (in view of the condensed character of Leibniz's treatise) not excessive, notes, a translation (without notes) of (*a*) a letter on "The Origin of the Theory of Monads," (*b*) an "Elucidation concerning the Monads," (*c*) "Elucidations of the Reform of the Ontological Argument, the Definition of Matter, the Theory of the Pre-established Harmony, and the Nature of Free-will", and some short supplementary essays intended to bring out the ultimate value of Leibniz's thought In a most interesting essay Professor Wildon Carr defends the paradoxical view that there is no *interaction* between monads, but only *intercommunication*, chiefly against the argument that the denial of interaction would lead to solipsism That his defence will satisfy most readers seems doubtful, and at any rate the disjunctive proposition that a self must *either* be a substance in a sense of the term *which implies complete independence, or have a merely adjectival existence*, on which he bases his whole doctrine, seems to me emphatically neither a necessity of thought nor in accord with the world as we know it There are also points in the *Monadology* where exception might be taken to the clearness or relevance of his comments, and it may be doubted whether he does not in his interpretation assimilate Leibniz too much to modern idealism. The

translation is good and very readable, but there are a certain number of places where he would have done better to follow the original more carefully.

A. C. EWING.

Studies in the Eighteenth-Century Background of Hume's Empiricism. By MARY SHAW KUYPERS. (The University of Minnesota Press, Minneapolis. 1930. Pp. viii + 134. Price $1.50)

These Studies deal with a part of the immediate background of Hume's thought, which has suffered neglect through the preoccupation of Hume's critics until recent times with his relation to the English epistemological tradition. The writer accepts the newer attitude to Hume, first set forth by Professor Kemp Smith in his articles on "The Naturalism of Hume"[1] Hume's naturalistic position is regarded as of more importance than the phenomenalism, in which he merely amplifies certain positions reached by Locke and Berkeley; and an attempt is made to interpret his thought as a whole in the light of his confessed enthusiasm for the experimental method. The main purpose of these Studies is to show the relation between Hume's application of this method and certain contemporary tendencies in the fields of thought in which he applied it.

The Studies are divided into two groups. The first group, we are told in the Preface, is "concerned with the historic development which brought the problem of causation to the foreground both in science itself and in the philosophic interpretations placed upon it." The problem of causation is shown to have emerged from the metaphysical interpretations of Newton's empirical, scientific concepts, and in particular from the transformation of forces conceived as methodological principles—the *Vis Inertiæ* and the *Vis Gravitationis*—into forces conceived as metaphysical entities. This historical development is traced with sufficient fullness to make it clear and interesting.

The second group of Studies deals with Hume's empirical treatment of the problems of force or causality, of morals, of politics, and of the interpretation of history. Evidence is brought forward to show his acquaintance with, and interest in, the science of the period and its philosophical interpretations; and his discussions of causality and, incidentally, of mathematics, of space and time, and of primary and secondary qualities, are connected with the problems raised in the development of science. The point that is emphasized throughout is Hume's insistence on the application of empiricism, of Newton's experimental method in contrast to the dogmatic rationalism of his followers and those who expounded him in the interests of theology. When she turns to the social sciences the author is again concerned chiefly with Hume's method, and she rightly insists on the unity which this method gives to his thought on different subjects.

These Studies are successful in making Hume's method stand out "with some of the prominence which he himself attached to it" (p. 89), and in relating it to its background in eighteenth-century thought. It is no part of the author's purpose to give a critical discussion of Hume's right, from the epistemological standpoint, to his enthusiasm for the experimental method, nor to raise the question of the value of naturalism. But studies such as those which she offers are of great help in the understanding of Hume's thought; and that is a matter of interest, even if a consistent naturalism should seem to the reader as unacceptable in its attempted explanations as in its denials.

SHEILA A. KERR.

[1] In *Mind*, N.S. 14, 1905.

A Philosophy of Reality By E. L Young. (Publications of the University of Manchester No ccvi Manchester University Press. 1930. Pp. xi + 266 Price 8s. 6d net)

This book, while claiming to set forth a philosophy of reality and accepting the position that the function of philosophy is to explain the universe, dispenses with the stereotyped methods of most philosophies, with what the irreverent are apt to call philosophical jargon, and with all transcendentalism. For this reason it will appeal to those who are interested in philosophy but who are not professional philosophers The treatment of philosophical problems is fresh and stimulating, there are throughout many fruitful remarks which will repay the trouble of serious reflection; and there is gathered into its pages much interesting scientific material which will prove helpful and suggestive to others

The whole book breathes the air of a sane, healthy realism, confining itself to "the known and realizable universe and not with anything beyond it." It endeavours to show that the universe is not alien to man and to the human mind. It manifests a confidence in science which apparently requires no critical examination but only an exposition of scientific results Philosophically, it is in fact an interpretation of reality on the basis of the realism of common sense and of physical science. The author is concerned simply with an exposition of the view to which knowledge seems to him to point, though there are some bogeys, of course, even scientific ones, to be dispatched Yet, in spite of the generally clear and vigorous style, the critically minded will experience difficulties. The stress laid on movement and vibrations instead of clarifying the problem seems rather to raise one Terms like *union* ("union is subjectivity"), *integration unification*, require some elucidation The nature, status, and rôle of mind and consciousness in reality remain far from being clear, and the doctrine that matter and spirit are "the two aspects of reality" is apparently accepted without any critical analysis of its meaning in relation to the other positions maintained in the book.

B M Laing

Pleasure and Instinct By A H. B Allen (London: Kegan Paul, Trench, Trübner & Co 1930. Pp. lx + 336. Price 12s 6d)

In *Pleasure and Instinct* feelings are shown to be states of the "self" which depend upon the processes of conation This is an ancient theory, but the author treats it afresh in a clear and convincing manner. Having summarized the chief views upon the nature of pleasure and unpleasure in general, the problem of sensory affective states is considered, and these are explained as due to the satisfaction or frustration of organic cravings. Whether specific to a given sensory organ, or belonging to the organism as a whole (maintainance or enhancement of function, on the one hand, and depression which the organism resists, on the other) these cravings are conative in character; and their mental analogues are the sensory couple, pleasure and unpleasure The author then turns his attention to the instincts, which he classifies under the main heads of (1) self-maintenance, including also propagation and a number of separate impulses developed as subsidiary to it; (2) the spiritual impulses of "self-maximation" and "self-giving"; (3) fear and anger, as reactions safeguarding the other instincts Instincts themselves are regarded as the conative trends of life, and pleasure is the mark of the normal development of any one of them towards its goal, while unpleasure characterizes frustration, and is due to the conflict between the persistence of the impulse and its thwarting Feelings are next compared with and distinguished from sensa-

tions as having a subjective "warmth and value" correlated with success or failure in the satisfaction of conative trends. The view is developed that conscious desire for pleasure is not a primary motive for action. The original is "the emergence into consciousness of a latent craving for some form of activity to which the organism is predisposed." In the exercise of such activity, however, the experience of pleasure may arise; and subsequently, as a value, pleasure may itself become a subsidiary end or motive. This consideration leads to the examination of the question whether there may not be other feelings than pleasure and unpleasure also which may constitute values; and the author suggests that such feelings are to be found in connection with degrees of more or less self-direction of mental activity, as well as with degrees of vividness or intensity with which the self is engaged in its reactions. It will be seen that the thesis is a dynamic and personalistic one, developing from the point of view of affective feeling a line of thought which is receiving increasing emphasis in contemporary psychology, both experimental and theoretic. There is an Index of Authors to whose work reference is made in the volume; but unfortunately a subject-index is lacking.

F. Aveling.

Religion and the Reign of Science. By F. L. Cross, M.A., B.Sc. (London: Longmans, Green & Co. 1930. Pp. ix+111. Price 4s. net.)

Mr. Cross is librarian at Pusey House, and this book is in the Anglican Library of Faith and Thought. Its purpose is to give a brief account of the relation between religion and modern scientific theories. After a chapter on the scientific age in which we live, Mr. Cross goes on to discuss the connection between religion and physics, biology, psychology, Biblical criticism, philosophy, and, finally, religion and the life of the spirit. This is a formidable programme, and no man living could discuss all these topics with equal competence. Mr. Cross's purpose is not technical, of course, but popular, and he has succeeded in providing a very readable book, and though most will enter a demurrer here and there, as a whole his criticisms are justly put.

One cannot understand what is meant by such a statement as this: "The Christian community is not merely the sum-total of all those who . . . have professed the Christian name. It is something more than these, more than its members; it exists apart from them. And if, as it is here contended, the Church exists as a corporate body, then there is no reason why it should not make corporate judgments." What a flock is apart from the sheep is not easy to see. This seems the old fallacy that since man collectively is different from man individually, the crowd is in itself something apart from its members. A few sociologists have tried to maintain this, but not one has been able to say more than Mr. Cross, that it is "something." One yet waits for any further characterization. There is a slight slip on p. 55. It was in 1875 that Wundt went to Leipzig. He founded his laboratory in 1879.

On the other hand, one welcomes the statement that the rather disappointing results that have followed the high expectations of psychology have been due to the following of wrong methods, based on the methods of mathematics and physics and the ignoring of individuality. In the chapter on philosophy the brevity necessarily enforced makes for a little inaccuracy, almost inevitably. It is hardly exact to say, for example, that Whitehead "holds that God and the world stand very much in the relation in which Christianity has explained them by its doctrine of creation," especially as he goes on to say that that doctrine is contained in essence in the first chapter

of Genesis. Genesis scarcely agrees with Whitehead that "It is as true to say that God creates the world as that the world creates God"

Such points as these, however, are incidental to and inseparable from the writing of such a book as this, where a vast area must be covered in a single chapter. One must judge rather by the whole, and so judging, one welcomes Mr Cross's book as a clear and honest attempt to deal with great issues in a way that will prove helpful and explanatory to the average reader.

E S WATERHOUSE

The Psychology of Clothes By J. C. FLÜGEL, B A , D.Sc (London: Institute of Psycho-Analysis and Hogarth Press. 1930 Pp 257 Price 21s)

The modern outlook in psychology finds one of its fullest and happiest expressions in this book The reader is led away from his prejudices by being shown the admirable qualities and services rendered by the most diverse custom and fashion, and by emulating the detached affectionateness of the author to his subject he can, if he so wishes, make his own approach from a new angle. At the same time, the book omits nothing but the pedantry from the textbooks on this topic In one sense it is rather frightening to discover how prejudiced and "overclothed" our thoughts are on this subject, and how little we dare think nakedly about the social and sexual problems involved; we are as ashamed of the working of our minds as of the contours of our bodies. Dr. Flügel shows how unnecessary are these shames and modesties without flaunting our weaknesses or swaggering before us as do the reformers. It is clear that he believes in the ultimate control of reason over man's behaviour, but is alive to the fact that mankind is prone to deceive itself, that it is acting reasonably, when, in fact, it is reacting unwittingly against some emotional impulse.

It is impossible in a small space to give an idea of the great range and detailed thinking of this admirable book; a few examples must suffice. The study of individual differences in the mental attitude to clothes leads the author to establish certain types The *rebellious type* gets little satisfaction from clothes, and is never resigned to them, feels constricted, impeded, and imprisoned. Clothes for these people are never so attractive as nakedness The *resigned type* has the same general psychological make-up as the rebellious (I have omitted three pages of close description and discussion), except that the habit of wearing clothes is so strong that there is no longer a struggle, but only a wish for the freedom of nakedness. The *unemotional type* is incapable of being pleased or annoyed by clothes or nakedness In these three types there is little conscious satisfaction in clothes, in those that follow the satisfaction is either in a *reaction* of inhibitory nature against the excitements of clothing or nakedness, or is found in a *sublimation* of impulses of exhibitionism or display. So we have the *prudish type* and the *duty type*, in which latter certain features of costume such as stiffness, tightness, or severity of line have become symbols of work or duty, the kind of clothes being not merely a reaction against self-display, but a brake on any runaway tendencies towards softness or self-indulgence. Where the conscious satisfaction in clothes is more direct, we may have the *protected type*, who are before all things warmly dressed (contrasting with the rebellious type). Next comes the *supported type*, or those who feel pleasurably supported by tight or stiff clothes In the case of the *sublimated type* there is a fusion of clothes and body into a harmonious unity. Lastly, there is the *self-satisfied type*, which has something in common with the unemotional and the sublimated types, and presents a rather irritating smugness and self-complacency about clothes. This brief outline does not do

justice to the penetrating analysis which each type receives in this book, nor will scrappy quotations show its range. To take one instance more, the author calls our attention to the remarkable change that took place in the decorativeness of men's clothing at the end of the eighteenth century, and shows how it came about that the great social and political upheaval of that period made men drab, but left women gaily dressed. He then goes on to ask how it has been possible for men, who used to look like peacocks and to enjoy their finery, to endure the giving up of display, and further, what has become of the energy that went into dressing. When Dr. Flügel asks a question, he does not shirk difficulties in giving an answer. In another part of the book the fashions of immaturity of figure, of maturity, and the concealment of age are discussed with a truly wonderful fairness and detachment. Most books on this subject are biased somewhere, and one feels that they would be read by naked savages or overdressed courtiers with qualified approval; such readers might, perhaps, have their fancy tickled by the praise or condemnation of some loved or hated foible, but would never be really won over to the author's way of looking at the subject. In this case, however, one feels that the book can be handed to anybody, from Greenland to Patagonia, from Bloomsbury to Mayfair, with the certainty that every private foible or prejudice of the reader has been given its best advocacy, and has been placed in relation to everyone else's foibles and prejudices. Does anyone say he has no prejudices or private fancies about clothes? Let him read this book; he will neither cast the book nor his clothes nor his prejudices aside (it is not propaganda), but will wear his prejudices henceforth with a better grace. JOHN RICKMAN.

Spinoza on God. By JOSEPH RATNER. New York: Henry Holt & Co. 1930. 8vo, pp. xiv + 88. Price $1.50.

This little book is intended as a contribution to the textual analysis, and only indirectly to the philosophical interpretation, of Spinoza's *Ethics*, or rather of a part of it, albeit a very important part of it. Mr. Ratner rightly protests against the tendency to reach Spinoza texts in the light of a pre-conceived interpretation of his whole philosophy. Several years ago the present writer voiced the same protest, and illustrated it by reference to a number of important passages in the *Ethics*.

With regard to Mr. Ratner's main points, let me say at once that I entirely agree with him, in fact I have explicitly and emphatically urged the same views in the commentaries to my translations of Spinoza's *Short Treatise* and his *Correspondence*, the latter of which is referred to by Mr. Ratner. Of these main contentions the first relates to the *substantial* character of the attributes (compare *Short Treatise*, pp. 174 ff.). And intimately connected with this is the second main contention, namely, that the Hegelian, and still too common, interpretation of Spinoza's phrase, *omnis determinatio est negatio* is utterly wrong. It means that the *limitation* or delimitation of finite objects is negation, or an indication of what they are not. But it has no reference to the *characterization of substance* by its *attributes*. (This was pointed out explicitly in the *Correspondence*, p. 431.) Mr. Ratner's emphasis on this view is not only right, but seems especially necessary in America. For I notice to my amazement that in his otherwise excellent book on *Types of Philosophy* Professor W. E. Hocking has repeated this misinterpretation of Spinoza at least four times.

For the rest, without subscribing to everything that Mr. Ratner says in it, one may commend his little book as a helpful contribution to the study of some of the fundamental ideas of Spinoza. A. WOLF.

Rational Induction An Analysis of the Method of Science and Philosophy. By Homer H Dubs, Ph D (Chicago the University of Chicago Press. 1930 London Cambridge University Press Pp xv + 510 Price 21s. net)

Dr Dubs is of opinion that while the problem of knowledge has received a great deal of attention from philosophers, the logically prior problem, How do we know when we have attained to knowledge? has never been adequately treated This problem is the main theme of the volume under review What is Knowledge, and how is it to be justified? These are the chief questions to be answered According to Dr Dubs, knowledge consists of propositions which, if thoroughly understood, together with their proximate and ultimate grounds, will bring about the assent of every unprejudiced mind Now such knowledge (as distinguished from mere opinion) is established by means of the method of hypothesis and verification This method is described by Dr. Dubs as "rational induction" Hence the main title of his book

The volume covers a wide range of subjects, and the chapters sometimes appear to be rather loosely connected In fact, the author himself kindly suggests to the busy reader that the main points of the book may be grasped by reading four specified chapters out of the fifteen chapters which it contains. Nor does it appear to contain anything strikingly new One recognizes old friends in its strong points and in its weaknesses Sometimes they appear more or less disguised in a new nomenclature, but this presents no real difficulty. As a whole the book is comparatively easy and pleasant to read, and the author's fondness of tilting against the foibles of contemporary philosophers adds to the reader's enjoyment. Of course, after reading all that Dr Dubs has to say about "rational induction" in general, the wise reader will do well to turn to one of the more orthodox accounts of scientific methods and learn also something about the *differences* between the various inductive methods.

A. WOLF.

Psychopathology By J. S NICOLE, M R C P & S (London Baillière Tindall & Cox, 1930 Pp xii + 203 Price 10s 6d)

This book is divided into two parts, the main text and three appendices. In the main text Dr Nicole has endeavoured to summarize the teachings of the various authorities on psychotherapy and psychopathology who have influenced psychological medicine during the present century He starts with an historical introduction, and then he proceeds to discuss the teachings of Morton Prince, Freud, Jung, Adler, Rivers, Watson, Kempf, Berman, and Kretchmer. He discusses the Biochemical researches so popular at present in the laboratories of Mental Hospitals, and ends his résumé by pointing out that in all probability all these different methods of approach have some value for psychopathology, but so far they are not sufficiently correlated to be used as a whole It is obvious from these summaries that Dr Nicole has read voraciously, and has himself understood all he has read It seems a pity, therefore, that he has not given us more of his own conclusions, for the summaries are bare expositions without comment Further, it is doubtful whether Dr Nicole has succeeded in presenting the summaries in a way which will be of much use to others The whole only occupies 100 pages, and so is too brief for the uninstructed, and probably contain nothing outside the knowledge of those already familiar with the subject We think, however, that this book may be of great use to those who wish to revise and collate their reading for

such an examination as the D.P.M., and the full bibliography at the end of the book will allow such persons readily to fill up any lacunæ they may discover in their knowledge of the subject.

The first appendix is concerned with the various modern concepts of the ego, a difficult but important subject which the author reviews admirably.

In the second appendix the author joins the ranks of those who have attempted to give a short, concise summary of Jung's physiological types, but it is to be doubted if he or any of his fellows have succeeded in making them any clearer to the general reader. Dr. Nicole insists on the importance of understanding these types from the point of view of dealing not only with patients, but also with staff, so that suitable nurses and attendants may be found for individual patients.

In the third appendix the author discusses the Herd instinct, and the exceedingly lax way in which this term has been used in modern psychological literature.

Altogether this book shows great erudition on the part of the author and is pleasantly presented, but in our opinion too much has been attempted in too small a compass. *R. G. G.*

Contemporary Thought of Germany. By W. Tudor Jones, M.A., D. Phil. (London: Williams & Norgate, Ltd. 1930. Pp. viii + 278. Price 5s. net.)

As Mr. Tudor Jones considers over a hundred philosophers in 276 small pages, detailed treatment is out of the question. But a short book on contemporary German philosophy is clearly required. There are people who wish to be acquainted with the main outlines of German philosophical thought without having to trouble about the details, and for these the absence of detail is a recommendation. They want an account of the main tendencies and an exposition of the leading ideas of the principal thinkers.

The present volume is to be followed by another, and one gathers that the distinction between them is somewhat elastic. The first volume deals with the older men, who made their mark during last century, but it includes many whose chief works have been published during the present century—such as Driesch, Eucken and Husserl, to name but three. The second volume will deal with the younger men. Writers have been grouped to illustrate schools. The problem of distinguishing between schools usually presents difficulties. There are, of course, obvious distinctions, as between Mach and Cohen. But there are usually doubtful distinctions as well—cases where one wonders whether the resemblance or difference between thinkers is the more important. Mr. Tudor Jones has distinguished six groups, which undoubtedly represent six main currents of contemporary German philosophy, and any disagreement with his classification must be slight. It may be remarked that he has neglected the neo-scholastic movement (but perhaps this is reserved for the second volume); that Münsterberg and Ruckert should not be classed with the Neo-Kantians, and that the omission of some philosophers for the sake of treating others more fully would have been an improvement, although the inclusion of many names does give the book an added value as a work of reference. But the reader will discover the kind of outlook which distinguishes one group of philosophers from another, and the kind of theory which each philosopher held. He must not expect precise statement. German philosophical writing is often involved and obscure. Mr. Tudor Jones might well maintain that an imprecise rendering now is worth more than a precise

rendering at some hypothetical future date But he is certainly more successful with some writers than with others—more successful, for example, with Nietzsche than with Husserl. HELEN KNIGHT.

Grades of Significance By G N. M TYRRELL, B Sc. (London Rider & Co. 1931 Pp 221 Price 7s. 6d net)

Mr Tyrrell writes interestingly, simply, and clearly on the nature of personality and of the various aspects of reality with which personality is in touch, with the object of showing that the material world is merely an aspect of reality and not reality itself, and that there are other and wider aspects of which personality may be, and often is, aware He is clear that our reactions toward so-called facts are very largely conditioned by our philosophical pre-suppositions, and that this is especially the case in regard to psychic research, and his purpose is to put forward a point of view whose presuppositions shall be in accordance with modern scientific and philosophic developments, and which shall enable the facts elicited by psychic research to be put in a proper light

From his point of view these facts show that personality, which in ordinary life is normally in touch with reality through the facts of the body and the sense-world, is capable of being stretched (the word is his own) so as to get into touch with wider aspects, much in the same way as one can be in touch with a printed book, regarding it merely as a collection of black marks on a white ground, obeying certain laws of relationship, or regarding it as the expression of a meaning, which has nothing to do with black and white, nor even with the laws connecting letters into words Imagine a race of savants preoccupied with these laws, who had never heard of printed words as expressing meanings, confronted for the first time by someone who claimed that through them he could get into touch with a world of a different order, and you have a situation parallel to that which arises when the materialistically minded person is confronted with the claims made by psychic research

Mr. Tyrrell is not pleading on behalf of spiritualism "as a religious cult," as he phrases it; he is greatly in sympathy with Dean Inge's fears of the extravagances of belief into which one may be led by substituting for the realm of eternal values a temporal existence stretching out indefinitely. He is aware that evidence for the survival of personality after death is not in itself evidence of immortality, and that the problem of the nature of time is not to be solved in this way. His position in regard to eternal values themselves is indeed very much akin to that of Dean Inge What he is pleading for is a sober and helpful attitude toward the investigations made by psychic research (which he regards as scientific and not religious), and a recognition of the way in which they point to a widening of the significance of the nature of reality and of the powers of personality. And however we may disagree with particular details of his position, we can only wish him every success in his main object.

L. J RUSSELL.

Books received also:—

F. H. BRADLEY, O M., LL D. *Aphorisms.* Oxford: Clarendon Press: Humphrey Milford. 1930 Pp. 30. 5s

C. J. DUCASSE. *The Philosophy of Art* London: George Allen & Unwin Ltd 1931. Pp. xiv + 314. 12s. 6d.

LUDWIG FISCHER. Translated by W. H. Johnston, B.A. *The Structure of Thought. A Survey of Natural Philosophy.* London: George Allen & Unwin Ltd. 1931. Pp. 366. 16s.

D. H. TH. VOLLENHOVEN. *Het Nominalisme van Zeno den Stoïcijn.* Amsterdam: N. V. Dagblad en Drukkerij de Standaard. 1930. Pp. 30.

J. S. MACKENZIE, Litt.D., LL D *Cosmic Problems. An Essay on Speculative Philosophy.* London: Macmillan & Co. 1931. Pp. ix + 122. 6s.

Annual Report of the Smithsonian Institution, 1929. Washington, U.S.A.: Government Printing Office. 1930. Pp. xiii + 622.

RICHARD MCKEON *Selections from Medieval Philosophers. Vol. II. Roger Bacon to William of Ockham.* London. Charles Scribner's Sons. 1931. Pp. xviii + 515. 3s. 6d.

K. A. KRISHNASWAMY AIYAR, B A. (Foreword by Dr. S. Radhakrishnan.) *Vedanta, or the Science of Reality.* Madras: Ganesh & Co. 1930. Pp. xiii + 346. Rs. 10.

O. H PRIOR. *Morceaux Choisis des Penseurs Français du XVI° au XIX° Siècle.* (Preface de M. Léon Brunschvicg) Paris: Librairie Félix Alcan. 1930. Pp 408. 30 frs

PIERRE QUERCY. *L'Hallucination. Études Cliniques.* Paris: Librairie Félix Alcan, 1930. Pp 550. 60 frs.

PIERRE QUERCY. *L'Hallucination. Philosophes et Mystiques.* Paris: Librairie Félix Alcan 1930. Pp. xxvii + 377. 40 frs.

ANDRÉ LEROY. *La Critique et la Religion chez David Hume.* Paris: Librairie Félix Alcan. Pp. xix + 376. 40 frs.

R. RUYER. *L'Humanité de L'Avenir d'après Cournot.* Paris: Librairie Félix Alcan. 1930. Pp. 150. 30 frs.

R. RUYER. *Esquisse d'une Philosophie de la Structure.* Paris: Librairie Félix Alcan. 1930. Pp. 370. 50 frs.

B. WIGERSMA. *Verhandlungen des Ersten Hegelkongresses vom 22. bis 25. April 1930 im Haag.* Tübingen: J. C. B. Mohr (Paul Siebeck); Haarlem: N/V. H. D. Tjeenk Willink & Zn. 1931. Pp. 243.

Various. *Studies in the Problem of Relations.* Berkeley, U.S.: University of California Press. 1930. Pp. 216.

WARNER FITE. *The Living Mind.* London: Williams & Norgate. 1931. Pp. ix + 317. 10s. 6d.

J. R. BELLERBY. *A Contributive Society.* London: Education Services. 1931. Pp. xvi + 224. 7s. 6d.

G. A. GASKELL. *A New Theory of Heredity.* London: C. W. Daniel Co. 1931. Pp. 93. 2s. 6d.

RADOSLAV A. TSANOFF, Ph D. *The Nature of Evil.* New York: The Macmillan Co. 1931. Pp. xvi + 447. $3.

N. R. D'ALFONSO. *Natura Economa.* Roma-Athanaeum. 1930. Pp. 23

JOHN LAIRD. *Morals and Western Religion.* London: Edward Arnold & Co. 1931. Pp. viii + 232. 7s. 6d.

THE REV. O. C. QUICK, M A., D.D. *Philosophy and the Cross.* (Riddell Memorial Lectures.) London: Oxford University Press: Humphrey Milford. 1931. Pp. 48. 2s. 6d.

RABINDRANATH TAGORE. *The Religion of Man.* (Hibbert Lectures for 1930) London: Allen & Unwin Ltd. 1931. Pp. 239. 7s. 6d.

H. W. B. JOSEPH, M.A. *Some Problems in Ethics.* Oxford: Clarendon Press: Humphrey Milford. 1931. Pp. vi + 135. 5s.

H. N. RANDLE, M.A., D.Phil. *Indian Logic in the Early Schools.* London: Oxford University Press: Humphrey Milford. 1930. Pp. xii + 404. 12s.

NEW BOOKS

V. V. JANKÉLÉVITCH. *Bergson.* Paris Libraire Félix Alcan Pp. viii + 300. 45 frs

A. A ROBACK *Personality the Crux of Social Intercourse* Cambridge, Mass · The Sci-Art Publishers 1931 Pp 144 $1 25

GIOVANNI GENTILE *La Filosofia dell'Arte* Milano Fratelli Treves Editori 1931. Pp viii + 377 Lire 30

ALFRED ADLER *The Pattern of Life* (Edited by W. Beran Wolfe, M D) London Kegan Paul, Trench Trubner & Co 1931 Pp 271 8s 6d

EDUARD VON HARTMANN *Philosophy of the Unconscious* (Preface by C K Ogden) (International Library of Psychology and Philosophy) London Kegan Paul, Trench Trubner & Co 1931 Pp xxxviii + 368 15s

C R MORRIS *Locke, Berkeley, Hume* Oxford at the Clarendon Press 1931. Pp 174 6s

ANGELO S RAPPOPORT, Ph D, B ès L *History of Palestine* London George Allen & Unwin Ltd 1931 Pp 368 12s 6d

JAMES CLARK MCKERROW, M B *Novius Organum Essays in a New Metaphysic* London Longmans Green & Co 1931 Pp viii + 277. 9s

LAWRENCE HYDE *The Prospects of Humanism.* London. Gerald Howe Ltd 1931 Pp 249. 10s. 6d

W. D LIGHTHALL, LL D. *The Person of Evolution* London and New York. Macmillan & Co. 1931. Pp. 216. 8s. 6d.

CORRESPONDENCE

To the Editor of the Journal of Philosophical Studies

DEAR SIR,

In the January number of *La Critica* Signor Croce takes me to task for a remark I made concerning him in my review of Ugo Spirito's *Idealismo italiano e i suoi critici*, in the *Journal of Philosophical Studies* of July 1930 Since I seem to have misled your readers, I feel obliged to make amends by communicating his strictures. "In a review by Jessop in this excellent philosophical organ emphasis is given to an affirmation and an exhortation attributed to me, namely, that (in *La Critica*) I have reproached the youth of Italy for busying itself with the abstract principles of philosophy instead of applying them in literary criticism, history, etc This, writes the reviewer, 'is of interest as showing Croce's superb confidence in the finality of his findings, and the authority a teacher can acquire in Italy' I do not know whether this false interpretation is to be found, though it may well be in the book under review, nor shall I take the trouble to clarify such a trifling detail, since I am now accustomed to see and discount in books, reviews, and journals similar ineptitudes and confusions But since Jessop has fallen into that misunderstanding, I must explain to him that although I have recommended, and still recommend, in word and still more in deed and example, historical studies as at once a stimulus to and a control of philosophical thinking, I have never dreamed of exhorting anyone to 'application,' that is to mechanical tasks, to thinking without thinking This in truth would be not so much conceit as stupidity . The advice I have given is the same as that given by Giambattista Vico, when he recommended the young to read the poets, historians, and orators in order to stock the memory and prepare material for judgment, thereby avoiding the danger of becoming subtle, barren, and socially useless This was the plain meaning of my article on 'Troppa filosofia'"

I freely accept the correction, and apologize for having uncritically followed Signor Spirito's version of "Troppa filosofia" And perhaps Signor Croce will pardon me more readily if I mention that in translating my expression "superb confidence" by "superba fiducia" he has misinterpreted the adjective. The English "superb" is by no means always a pejorative

May I take this opportunity of begging Signor Croce to induce a publisher to reissue the English translation of his valuable *Breviario di Estetica*, now out of print?

T E. JESSOP

THE BRITISH INSTITUTE OF PHILOSOPHICAL STUDIES

(Incorporated under the Companies Acts 1908–1917 as a Company not for Profit but limited by Guarantee.)

President:

Chairman of the Council:
PROFESSOR J. H. MUIRHEAD, M.A., LL.D.

Deputy Chairman of the Council:
A. D. LINDSAY, C.B.E., M.A.

Chairman of the Executive Committee:
SIR LYNDEN MACASSEY, K.C., M.A., LL.D., D.Sc.

Director of Studies:
SYDNEY E. HOOPER, M.A.

Hon. Secretary:
P. M. ROSSDALE, LL.M.

INSTITUTE NOTES

SUMMER TERM begins on April 28th, and ends on June 30th.

"THE PHILOSOPHY OF CONTEMPORARY LITERATURE," a course of six weekly lectures by C. R. MORRIS, M.A. (Fellow and Tutor of Balliol College, Oxford), on Tuesdays, at 5.45 p.m., at University Hall, 14, Gordon Square, W.C.1, in the Summer Term, beginning May 5, 1931. The lectures are free to members. For non-members of the Institute the fee for the course is 12s. 6d.

OBJECTS OF THE INSTITUTE

The British Institute of Philosophical Studies exists to bring leading exponents of various branches of Philosophy into direct contact with the general public, with the purpose of satisfying a need felt by many men and women in every walk of life for greater clearness and comprehensiveness of vision in human affairs.

With this broad educational purpose in view, the Institute—

(1) Provides at suitable times in the day and evening courses of lectures by leading exponents in the more important subjects coming within the scope of Philosophy. All branches of Philosophy are represented—Ethics and Social Philosophy, the Philosophy of Law and of the Sciences, of the Fine Arts and of Religion, as well as Logic and Metaphysics and Psychology. These lectures are free to members.
(2) Issues a quarterly philosophical Journal (free to members).
(3) Proposes to form a philosophical Library.
(4) Gives guidance and assistance to individuals in their philosophical reading.
(5) Encourages research in Philosophy.
(6) Offers the facility of a Common Room for social intercourse.

Those desirous of becoming members of the Institute are invited to apply for further particulars and forms of application to the Director of Studies, University Hall, 14 Gordon Square, London, W.C. 1.

THE PLATONIC TRADITION IN ANGLO-SAXON PHILOSOPHY By Professor J. H. MUIRHEAD (*Library of Philosophy*). In contrast to the general view, this book shows the Platonic Tradition firmly established before Locke and continuing into the nineteenth century. 16s.

THE STRUCTURE OF THOUGHT By LUDWIG FISCHER. Translated by W. H. JOHNSTON. A philosophy of philosophies. The Author's survey ranges over human thought from the Pythagoreans to Driesch and Vaihinger, a survey significant because it is not merely a chronicle but a dissection of the logical interrelation between systems. 16s.

THE MYSTIC WILL By HOWARD H. BRINTON, Ph D. Introduction by RUFUS M. JONES, D.Litt. Here at last is a book which gives a lucid presentation of the teachings of Jacob Boehme, and places him in his true historical perspective. 8s. 6d.

THE RELIGION OF MAN By RABINDRANATH TAGORE (*Hibbert Lectures for* 1930). "The whole book is rich in profound thought and poetic speech . . . he has never written anything so penetrating and illuminating on the nature of things. . . . A treasure-store of truth, beauty, and wisdom."—*News Chronicle.* 7s. 6d.

GEORGE ALLEN & UNWIN LTD



A WONDERFUL LENDING LIBRARY

Nearly 10,000 works on

Theosophy Magic Philosophy Occultism
Science Religion Therapeutics Psychology

OPEN TO THE PUBLIC

Subscription Terms (2 vols)
12 months.....15/-
6 months 10/-
3 months..... 5/-

Apply Librarian

Books by post. Catalogue 1/9 post free.

THE LENDING & REFERENCE LIBRARY *of the* THEOSOPHICAL SOCIETY IN ENGLAND
45 LANCASTER GATE, LONDON, W.2

PHILOSOPHY

CHARGES FOR ADVERTISEMENT SPACE

Page - - - - - -	3 Guineas
Half-page - - - - - -	£1 15s.
Quarter-page - - - - - -	20s.

Orders for space should be sent to

MACMILLAN & CO. LTD., ST. MARTIN'S STREET, LONDON, W.C.2

MACMILLAN

COSMIC PROBLEMS: An Essay on Speculative Philosophy.

By PROFESSOR J. S. MACKENZIE, Litt.D., Hon.LL.D., author of "Outlines of Metaphysics." 6s. net.

A survey of the views reached by modern physical science and philosophy with regard to the general structure of the Universe, and of their bearing on deep problems of religious thought, e.g. the Idea of God, the Problem of Creation, and the Problem of Immortality.

The Western Mail "It is a highly finished, very readable sketch, and obviously the essence of much hard thought and care"

ADVENTURES IN PHILOSOPHY AND RELIGION

By JAMES B. PRATT, author of "The Religious Consciousness," etc. 8s. 6d. net.

This work consists of a series of imaginary dialogues between Socrates and the leaders of contemporary schools of thought in philosophy and religion. Instrumentalism, Neo-Realism, the philosophy of Bertrand Russell, Behaviourism, Objective Idealism, and the theological form of Humanism are expounded, and shown to be incapable of offering any adequate substitute for the more spiritual doctrine they seek to displace.

ESSAYS ON THE NATURAL ORIGIN OF THE MIND

By C. A. STRONG, author of "The Origin of Consciousness." 12s. net.

STUDIES IN PHILOSOPHY AND PSYCHOLOGY

By G. F. STOUT, M.A., LL.D., Professor of Logic and Metaphysics, St. Andrews University. 15s. net.

THE GROWTH OF PLATO'S IDEAL THEORY: An Essay

By SIR JAMES G. FRAZER, O.M. 7s. 6d. net.

Volume III. Just Published

ENCYCLOPÆDIA OF THE SOCIAL SCIENCES

Editor-in-Chief, EDWIN R. A. SELIGMAN, LL.D.: Associate Editor, ALVIN S. JOHNSON, Ph.D. 15 vols. Imperial 8vo.
Vol. III. Bright-Commentators. 31s. 6d. net.
Vol. IV. Commerce to Declaration. *[Shortly.*

Previously Published.—Vol. I. Aaronson-Allegiance, with preliminary matter, including Lists of Editorial Consultants and Contributors, Preface, Introduction. I. The Development of Social Thought and Institutions, and Introduction. II. The Social Sciences as Disciplines. Vol. II. Alliance-Brigandage. 31s. 6d. net each.

MACMILLAN & CO. LTD. LONDON W.C.2

CONTENTS

PAGE

OPEN LETTER TO MEMBERS OF THE INSTITUTE . . . 279

I *SUBJECTIVE AIM IN PROFESSOR WHITEHEAD'S PHILOSOPHY* PROFESSOR C LLOYD MORGAN 281

II COSMIC PURPOSE PROFESSOR J W HARVEY . . . 295

III IS MORAL PROGRESS A REALITY? PROFESSOR G C. FIELD . 307

IV McTAGGART'S CONTRIBUTION TO THE PHILOSOPHY OF RELIGION ROBERT LEET PATTERSON, M A , B D . . . 323

V PHILOSOPHY AS CRITICISM AND POINT OF VIEW ADRIAN COATES, *M A* 336

VI AN OUTLINE OF GENETIC PSYCHOLOGY· R F RATTRAY, M A , Ph D 347

VII PHILOSOPHICAL SURVEY

PHILOSOPHY IN FRANCE 365

PHILOSOPHY IN GERMANY 370

VIII NEW BOOKS 377

IX CORRESPONDENCE.

THE ERRORS OF SIR ARTHUR EDDINGTON A DEFENCE . 398

THE RIGHT AND THE GOOD 400

X INSTITUTE NOTES 402

PRINTED IN GREAT BRITAIN
BY UNWIN BROTHERS LIMITED
LONDON AND WOKING

PHILOSOPHY

THE JOURNAL OF THE BRITISH INSTITUTE OF PHILOSOPHICAL STUDIES

VOL. VI, NO. 23. JULY 1931

OPEN LETTER TO THE MEMBERS OF THE *BRITISH INSTITUTE OF PHILOSOPHICAL* STUDIES

AFTER the disturbing announcements of previous communications, the Executive Committee thinks it owes to the members of the Institute that they should be apprised of the measures that have been taken to deal with the crisis caused by the sudden death of Mr. Emile Garcke, who was so generous a supporter As a result of that event the Committee found itself committed to an expenditure which would leave a deficit at the end of the year ended March 31, 1931, of approximately £1,000. Two problems faced the Committee first, that of providing for this deficit, secondly, that of reducing expenditure for succeeding years so as to keep it within the limits of present income.

With a view to the solution of the former of these problems, the letter which the members received in January of this year was issued asking for donations. The sum received in response amounted to about £400, and this was an encouraging indication of the interest of members in the work of the Institute. In addition to this sum, some special donations were conditionally promised amounting to £350. There was still a gap to be filled, but through the exertions of the Director of Studies an anonymous friend of the Institute has given a donation of £500, which will enable the Institute to meet all its obligations and look forward with hope to the future.

But that this hope should be realized it was necessary to face the second of the above problems, and a Sub-Committee of the Executive was formed to report on the possibility of reducing expenditure without materially impairing the work of the Institute. Its recommendations fell under the four main heads. of economies in

the printing and publishing of the *Journal*; in the payments for lectures; in rent of the premises in Gordon Square; and in the salaries of officers. Owing to the loyal spirit in which these proposed economies were accepted by all concerned, the generous offer of unpaid courses by some of the academic members of the Institute, and the liberal proposal by the Trustees of University Hall of reduced terms for the offices in that building, we think we see our way to begin the new Session in October with but little if any diminution in the extent or efficiency of the work previously undertaken. But in writing this letter to members we desire, while warmly thanking them for their support under specially trying circumstances in the past, to remind them that success in the future will depend entirely upon the continuance of that support, and particularly on a substantial increase of membership. The Executive hopes to take special measures to secure that object, but its main reliance is on the efforts of the members themselves. If each made himself responsible for one additional member the finances of the Institute would be placed on a securer basis than they have yet attained, and the crisis through which we have passed would prove in the end to have been a consolidating and strengthening experience.

Speaking for the Council and the Executive, we would add that nothing that has occurred has shaken our faith in the importance and entire practicability of the work we have taken in hand, namely, of opening the opportunity of philosophical culture to a wider public than has hitherto been able to enjoy it.

JOHN H. MUIRHEAD,
HERBERT SAMUEL,
for the Council.

SUBJECTIVE AIM IN PROFESSOR WHITEHEAD'S PHILOSOPHY

PROFESSOR C LLOYD MORGAN

IN *Process and Reality* Professor A. N. Whitehead formulates a *Cosmology which embodies* a resolute attempt to combine in one philosophical synthesis a scientific account of Concrescence with a metaphysical explanation thereof in terms of Creativity.

I seek here to play the part of a commentator who approaches this cosmology through the avenue of comparative psychology.

I

One who comments on the thesis of a colleague may be permitted to state at the outset the chief tenets of his own philosophical creed

In the A B C of my philosophy I place under the heading A all Agency or Activity, creative or directive, under B all physical events to be discussed in terms of their Behaviour, and under C all mental occurrences of which Consciousness in us is the most salient example.

These three are inseparable, though each may be distinguished from the others, and may be discussed in abstraction from the others. In this sense each forms a 'closed system' But only in abstraction from the others. The aim of the philosopher is to rise above such abstraction and to see all physical events, all mental occurrences, and all forms of agency as one whole within which all instances of A, B, and C shall be included.

None the less, we do well to use abstractions as the steps by which to rise above them that we may see all things wholly, so long as we bear *in mind* that a *'closed-system' method of inquiry* is only a means to the philosophical end we have in view.

Now, as a matter of history, *those men of science whose inquiries* lie within the closed system of physics have in practice been led —or many of them have been led—to exclude agency from their special field of work as physicists. And taking for granted the mental processes of the observer and the thinker in perceiving and in reasoning, they have handed 'mind' over to the psychologist for discussion within *his* closed system of inquiry.

But those who are at work within that closed system fall into two schools. The members of one school lay emphasis on the agency of mind. *The members of the other school* regard all explanation in terms of such agency as beyond the scope of the science of psychology.

As a policy of method I choose the latter course. In other words, modern comparative psychology as such has, for me, no more concern with agency than has modern physics.

On this understanding there are, broadly speaking, two main provinces of natural science—physics and psychology. These I label B and C respectively. In biology they are so intimately co-related that, given such-and-such physical events in one closed system, concomitant mental occurrences in the other can (even now) in large measure be inferred. None the less, they may be distinguished. But biologists fall into two schools. The members of one school invoke agency, that of Life or Mind, to account for all the physiological processes they observe. Members of the other school are content to record their observations and to formulate generalizations in terms of which these observations may be interpreted. As a policy of scientific method I subscribe to the tenets of the latter school; and I distinguish a physical and physiological body-story under B from a psychological mind-story under C.

Each story deals with 'concrescence,' which, as I read it, is advance through new products to further novelty—physical products in this story, mental products in that.

But here, as commentator on Mr. Whitehead's text, I am faced by a difficulty. I elect to use *different* words in the universe of discourse of this story and of that—to reserve, for example, the words 'experience' and 'feeling' for primary use only in a psychological context. Mr. Whitehead elects to use these words in a much wider sense so as to do duty in both contexts. He speaks, for example, of a 'percipient event' in the body. I reserve the word 'percipient' for use in mind-story only. In the body there is, I should say, a *recipient* event consequent on the stimulation of specialized 'receptors.' For me all recipience is physical; all percipience is mental. The so-called 'avenues' of sense are paths of recipience to be interpreted physically and physiologically. I should not speak, with Locke, of ideas 'conveyed in' by 'the senses.'

In distinguishing 'creativity' under A from 'concrescence' under B or C, I am fully prepared to follow Mr. Whitehead. And yet we both seek to include them in one philosophical synthesis which shall do justice alike to natural science and to the metaphysics of agency. But here, too, there are verbal difficulties which centre in the word 'cause.' Mr. Whitehead proclaims from the house-top of his system that we can give no metaphysical explanation of any new step onwards in concrescent advance, or any subsequent recurrence of like events, unless we fully reinstate causality, both efficient and final, in its rightful position of metaphysical pre-eminence. Under the ban of science they have been ousted from what purports to be a comprehensive cosmology—as he thinks with disastrous results.

None the less, I, for one, should still exclude causality, final or efficient, from the council-chambers of natural *science*. I should speak of the so-called 'laws of causation' in science as 'laws of relatedness,' on the understanding that both physical and mental relatedness are included on like terms. If relatedness suffices for the scientific interpretation of all concrescence under the headings B and C, may we not reserve the word 'cause' for use only in that metaphysical universe of discourse in which agency plays the title-rôle?

II

Near the outset of *Process and Reality* Mr Whitehead lays much stress on 'dipolar prehension' In any instance of prehension, he says, there are three factors (*a*) the subject which is prehending; (*b*) the datum prehended; and (*c*) the 'subjective form' which is *how* that subject prehends that datum.

He then introduces the word 'superject.' The datum, he says, is superjective at one pole and implies the subject at the other pole. Hence the word 'subject' may always be construed as 'subject-superject'

Thus far the psychologist, as man of science, may find little difficulty, at any rate on first inspection. He may suppose that 'dipolarity' merely re-names the distinction he is wont to draw between subject and object. But he must probe deeper.

In Mr. Whitehead's usage the word 'object' has metaphysical import. It is that which is 'ingressive' into an 'actual entity or occasion' It is 'eternal' in 'potentiality,' whereas the actual occasion is passing and perishing We have therefore to distinguish two kinds of dipolar prehension. 'physical prehension' between actual entities, and 'conceptual prehension' of eternal objects.

Such use of the words 'physical' and 'conceptual' gives pause to the psychologist. He commonly reserves the latter for use only at the reflective level of concrescence in human thought. Not so in Mr. Whitehead's usage. It is applicable at all levels of 'experience,' including those which he far below the level of that which he speaks of as 'conscious.' It is applicable comprehensively to the interpretation of 'experience' of the week-old infant; of the embryo in the womb; of each molecule therein or elsewhere. Conceptual prehension is universal in its range. It is in this metaphysical or ultimate sense that 'subject-superject' comes into the philosophical picture. It is in this creative sense, as I understand, that 'subjective form' should be construed.

In Mr. Whitehead's philosophy the eternal objects which are ingressive into actual occasions of concrescence subserve subjective creativity in the category of the ultimate. Creativity is the 'principle

of novelty,' the producer of all that is new in concrescent advance. In the fluent world of actual occasions concrescence is, he says, inherent in the constitution of each particular entity. But apart from creativity, each actual entity momentarily perishes as such. Under repetition, however, it is succeeded by another on some line of advance. Hence there is 'transition' in fluency. Concrescence proceeds toward the final cause which is the 'subjective aim'; transition is the vehicle of the efficient cause which is the 'immortal past.'

It seems, then, that subjective aim is always central. And when we pass to further detail, such words as 'appetition,' 'end,' 'ideal,' 'satisfaction,' and 'purpose' are introduced to fill in the 'conceptual' picture.

So closely interwoven is the texture of Mr. Whitehead's thought that it is not easy to summarize his thesis without omitting relevant qualifications. Let me try to do so in brief.

Take some concrescent process. Metaphysically underlying this process from outset to outcome there is subjective aim in ultimate creativity; and that which is aimed at is the superjective end, with subjective satisfaction in its attainment. Any such process is in accord with the whole order of nature, which, as such, is differentiated from mere 'givenness' by the introduction of 'adaptation' for the attainment of some end. When this end is reached there is fulfilment of the primordial appetition which is the basis of all order. We have here the 'dominant ideal' that creatively inspires the given process of concrescence. The full ideal, however, is only partially attained owing to the inclusion of some measure of disorder, with like measure of dissatisfaction. Notwithstanding this occasional missing of the mark, the subjective aim at satisfaction constitutes the final cause or 'lure' whereby there is determinate concrescence; and the satisfaction attained is an element in the content of creative purpose.

All this holds good for any process of concrescence in molecule no less than in man. Underlying every actual *Process*, as fluent, is creative *Reality*, as eternal.

III

Permit me now to supplement the ABC of my philosophy by adding some account of the '1, 2, 3' of my psychology under C, namely, that branch of natural science which deals genetically and comparatively with the mentality of concrescent organisms.

On these terms, apart from such mentality as we may impute or attribute to others than ourselves, one turns to first-hand experience as it is disclosed in and to oneself. I find in myself three salient 'levels' of mentality which I can *analytically distinguish*—sentient;

perceptive; and reflective. These I label 1, 2, and 3 Let me take them in analytic order downwards.

3. At the reflective, or self-conscious, level I find generalized 'ideas' with correlative 'feelings.' I here use the word 'ideas' in the wide Lockian sense Reflective ideas are those to which there is reference on my part when I am thinking—I include under the word 'feeling' my enjoyment or awareness in so thinking

Chief among the reflective ideas that I find are those which have reference to a self—myself or another—and to a space-time frame of events. In typical reflection in daily life there is reference of self to some 'place' in this frame of reference.

2 At the perceptive, or conscious, level of my mentality I can analytically distinguish much that is going on all day long in which there is no reflective reference to self and no space-time scheme of events to which past or future occasions are reflectively referred. There is only that which occurs within the current now-occasion of the passing moment of action. But I find on any 'now-occasion' what I speak of as 'fore-experience' of that which I reflectively interpret as 'just-coming'—fore-taste, for example, as I raise a cup of coffee to my lips. This, no doubt, I *reflectively* interpret as a mental bequest of what *has* come on previous occasions of like nature. But I have not *perceptively* in mind, there and then, either retrospective reference to some *past* occasion, or prospective reference to some *future* occasion, in a space-time scheme Fore-experience as such is adjunct to some *this* occasion.

1. At the sentient, or subconscious, level I find no such fore-experience. There is only the mental accompaniment of those fundamental processes, physical and physiological, which afford the bare data of 'experience.' There is just a colour, a touch, a smell, a twinge, a sentient somewhat, and so on; perhaps only feeling 'fit' or 'all-overish'; abstracted from the 'meaning' each conveys

Under 1, 2, and 3 the emphasis here falls on temporal relations. And since we live forwards (though reflectively we may think backwards with reference to past occasions), the main stress in interpreting the psychological '1, 2, 3' is in forward regard. Hence one may say: In reflection there is prospective reference to some future occasion; in perception, fore-experience on some this-occasion; in sentience, as such, no time-reference—only some perishing 'now.'

In my first-hand experience I find mental occurrences at all three levels, normally going on concurrently, hand-in-hand In their fluent relatedness they constitute my adult mentality.

I pass now to imputation. By this I mean the attribution of mentality at some level, or levels, to someone other than myself. I include under 'someone' an infant, an amœba, and (speculatively no doubt) perchance a molecule.

In reflective scrutiny I discern no such evidence as leads me to impute mentality at all three levels even to all living organisms. To the fœtus during the months before birth I impute sentience only. To the infant from birth to about two and a half years I impute perception also. Not till then, and thence onwards in increasing measure, do I impute reflective mentality. In terms of mentality I classify animals as (1) sentient only, (2) perceptive also, and (3) incipiently reflective (some apes).

Here let me pause. I speak *analytically* of 'levels' of mentality in some given organism. In myself only have I such first-hand experience as can be submitted by me to first-hand analysis. It is 'distinguishing' analysis, not 'separating' analysis, where that which is submitted to such drastic treatment is thereby destroyed. It is analogous to that which Sir Wm. Bragg applies to a crystal that he may disclose the rôles which molecules and atoms play in that crystal *as an intact whole*, where events are going on simultaneously at different 'levels.'

Genetically I speak of 'stages' of mentality.

A canon of genetic interpretation which I have been led to accept is this: Since in concrescent order stage 3 follows 2, and this follows 1, it is not in accordance with sound scientific method to render an account of what happens at a lower stage of advance in terms appropriate to the interpretation of events at a higher level which has not yet been reached.

In the genetic order of concrescent advance reflection is more than perception; perception more than sentience. Here the 'more than' discloses concrescent novelty. But the reflective person is also perceptive; and, as perceptive, he is also sentient. The 'more than' involves the 'also.' Sentience, however, does not imply perception; nor does perception imply reflection. There is a natural order of mental concrescence in the advance of evolutionary process and in that of individual development.

IV

Having indicated my psychological outlook, I now come back into touch with Mr. Whitehead—into intimate touch with subjective aim and satisfaction in psychological regard.

From this point of view each includes a mode of awareness in enjoyment—awareness in aiming in one case, awareness in feeling satisfied in the other case. But subjective aim implies reference to an end in view, now aimed at but not yet attained; satisfaction implies reference to a precedent end in view, then aimed at and now attained.

On these terms, however, the whole procedure is typically reflec-